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FINAL NEGATIVE DECLARATION

IOWA 28
WARREN AND POLK COUNTIES, IOWA

From Near Elm Street In Norwalk
Northerly to Iowa 5 (Army Post Road)

Project No. F-28-1 and F-28-2

Prepared By
Iowa Department of Transportation
Planning and Research Division
Office of Project Planning

In Cooperation With
U.S. Department of Transportation
Federal Highway Administration

November, 1978

FINAL
NEGATIVE DECLARATION

IOWA 28
WARREN AND POLK COUNTIES, IOWA
NOVEMBER, 1978

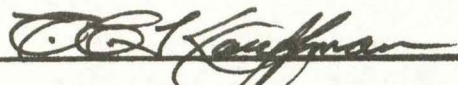
In accordance with the provisions of the Federal Aid Highway Program Manual, Volume 7, Chapter 7, Section 2, Environmental Impact and Related Statements, dated December 30, 1974, the following negative declaration is presented as an environmental assessment of proposed Federal Aid Project No. F-28-1 and F-28-2 in Warren and Polk Counties.

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Adopted by Federal Highway Administration


FOR: DIVISION ADMINISTRATOR
FEDERAL HIGHWAY ADMINISTRATION

6 Nov 1978
DATE

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IOWA 28

WARREN AND POLK COUNTIES, IOWA

SUMMARY OF STATEMENT

NOVEMBER, 1978

Project Description

The proposed project involves the improvement of a 3.9 mile segment of Iowa 28 in Warren and Polk Counties, Iowa. The project begins near Elm Street in Norwalk (Warren County) and continues northerly along the existing highway alignment to the junction of Iowa 5, near the southwest corporate limits of Des Moines, in Polk County. See Figure 1 for a map showing the location of the project in relation to the Central Iowa area. The proposed construction will basically consist of a four-lane divided facility with an eight-foot raised median, four-foot inside and 10-foot outside shoulders, and separate left-turn storage lanes at all city street and county road intersections; however, south of High Road, in Norwalk, a painted 16-foot median is proposed. At its intersection with Iowa 28, Iowa 5 will be redesigned to provide two through traffic lanes from each direction, a raised median, and separate left and right-turn lanes. Partial control of access is proposed in the project corridor. In addition, as a result of local input obtained during and following the Iowa 28 Corridor Public Hearing, the Iowa Department of Transportation is committed to studying the possible construction of a bicycle path between Norwalk and the Lakewood-Echo Valley Estates area in Warren County. The study will attempt to determine local interest and support for the proposal, as well as potential user volumes and bike traffic generators in the corridor area.

Actions Required By Other Federal Agencies

No subsequent federal actions due to this proposed action are required.

Probable Environmental Impacts

The environmental impacts of the proposed project include the probable displacement of one home and one business establishment. In addition, approximately 24 acres of additional right-of-way will be required, 7.3 acres of which is classified as prime farmland. The facility will cross South Middle Creek, increasing the potential for soil erosion and sedimentation-type water pollution during the construction process. Due to the expected increase in future traffic volumes, noise levels and highway related air pollution will increase slightly with either the "Build" or the "Do Nothing" Alternate.

Benefits to be derived from the proposed project include a safer and more efficient transportation facility for use by local traffic and commuters travelling between the residential areas within the study corridor and Des Moines.

VICINITY MAP

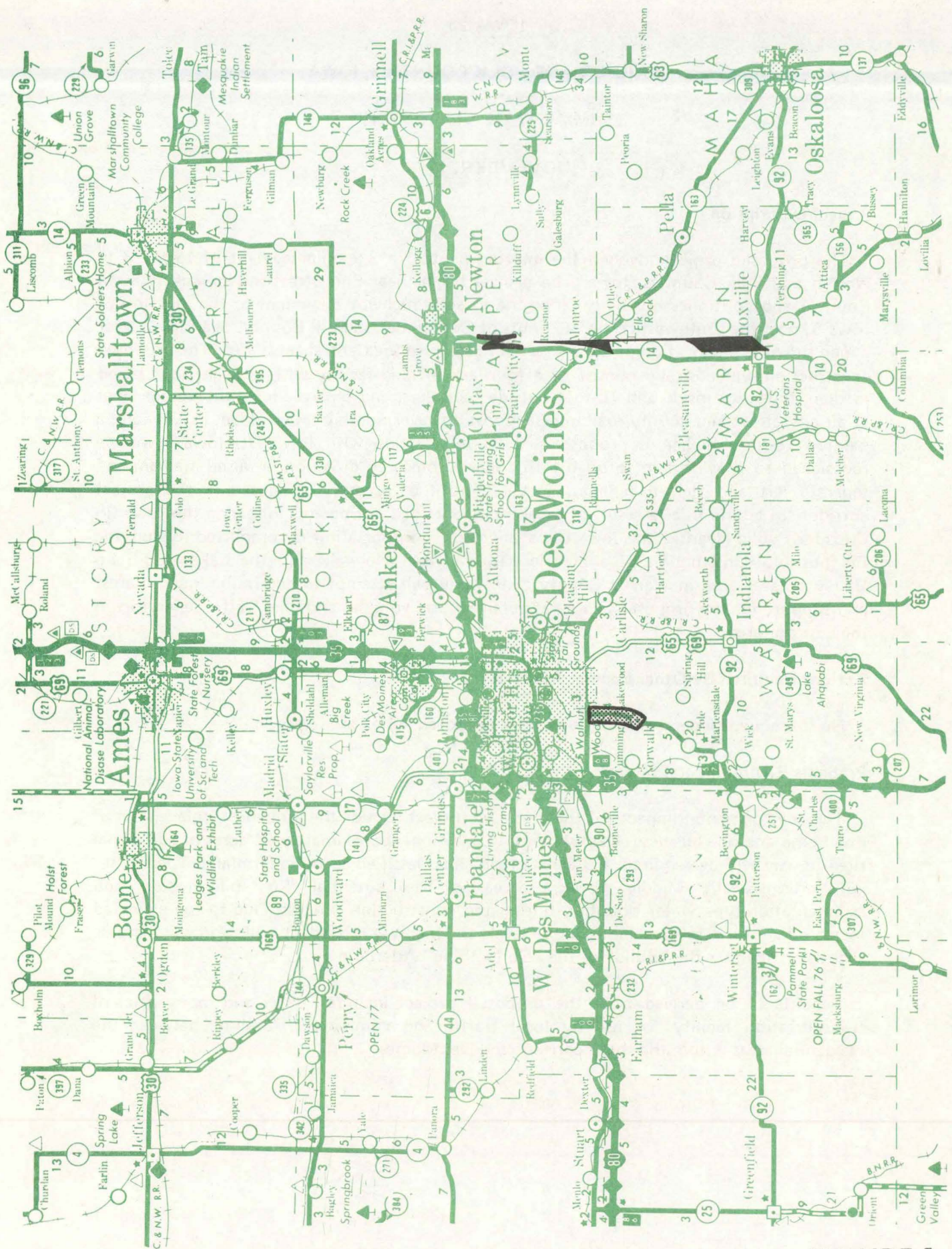


FIGURE 1

Alternatives

Two alternates were considered for this project. They included the proposed four-lane alternate and the "Do-Nothing" alternate.

A corridor public hearing for the project was held in Norwalk, Iowa, on March 28, 1978. As a result of the hearing and input gathered at the meeting, the Iowa Department of Transportation Commission, on May 30, 1978, authorized the design and ultimate construction of the four-lane alternate.

SECTION I. NEED FOR THE PROJECT

Iowa 28 is a twelve-mile long primary highway route located between Iowa Highways 92 and 5 in Warren and Polk Counties, Iowa. The route passes through the incorporated communities of Martensdale and Norwalk, as well as the new Lakewood and Echo Valley Estates housing developments. The improvement of Iowa 28 under consideration in this statement is a 3.9 mile segment from near Elm Street in Norwalk northerly to Iowa 5 (Army Post Road), near Des Moines.

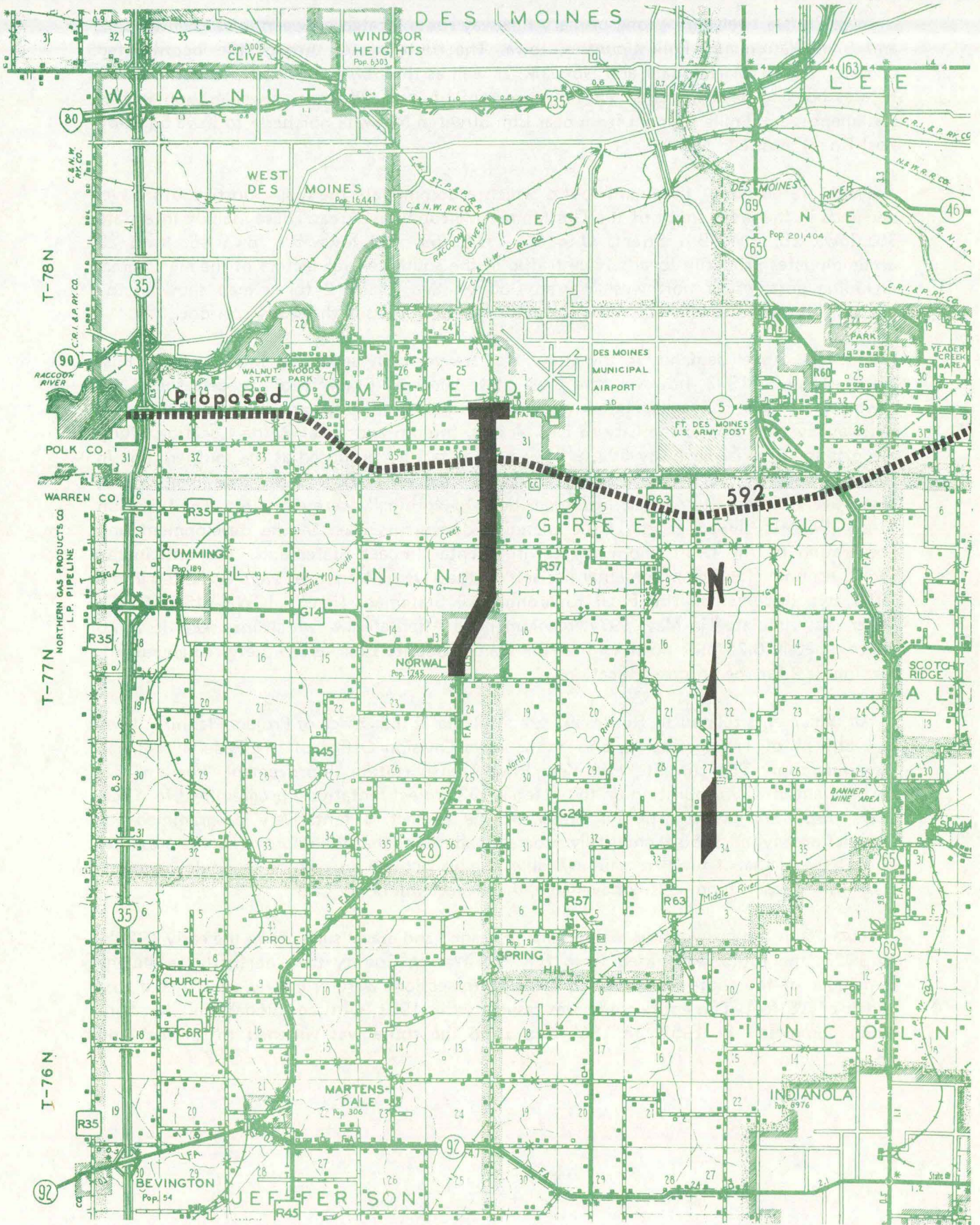
There are currently five main routes which accommodate the major north-south travel demands in the areas south of the Des Moines Metropolitan Area. These include Interstate 35, Iowa 28, S.W. 9th Street, U.S. 65 - U.S. 69, and Iowa 5 - Iowa 46. Iowa 28 accommodates primarily local service traffic in the south central sectors of the metro area, including portions of northwest Warren County. See Figure 2 for a map showing the proposed project area and other primary and secondary roads in the study corridor.

East-west travel demands in the study area are primarily served by Iowa 5 (Army Post Road). In July, 1973, however, the Iowa State Highway Commission, predecessor of the Iowa Department of Transportation, moved to initiate studies toward the completion of a Beltway System around the City of Des Moines. Interim and Final Route Location Study Reports for Arterial Highway 592, a freeway-type facility proposed as the southern link in the Beltway System, were completed in December, 1974, and November, 1975, respectively. Seven alternatives, including the "Do-Nothing", were evaluated. The Location Study Reports served as the basic planning documents used in the development and preparation of the Draft and Final Environmental Impact Statements. The anticipated social, economic and environmental impacts of the seven alternatives were evaluated in the latter two documents. The Final Environmental Statement (FHWA-IOWA-EIS-75-01-F), which was circulated in May, 1977, recommended Alternate 4A, which intersects Iowa 28 approximately 0.25 mile north of the Polk-Warren County Line, as the preferred alignment. See Figure 2 for the proposed location.

All documents related to Route 592 are available at the Office of Project Planning, Iowa Department of Transportation, and at the Iowa Division Office of the Federal Highway Administration. The current "Five-Year Iowa Transportation Improvement Program" has partial right-of-way acquisition on the Arterial 592 project tentatively programmed for fiscal years 1981 and 1982. The remainder of the project is tentatively programmed for completion beyond 1983. Tentatively programmed means that the improvement is presently budgeted and that if funds remain available, the project will proceed on schedule; however, if for some reason funding is not available, the project will be set back.

Iowa 28 in the project area was originally graded and gravel surfaced in the early 1920's. In 1923, the route was paved from the Polk-Warren County Line northerly, while the remainder of the route was paved in 1934. Both sections were originally constructed to a width of 18 feet. The entire route was resurfaced in 1951, with additional shoulder work being completed in 1952. In 1955 and 1956 the route was widened to 24 feet and

PROJECT AREA MAP



resurfaced. Additional reconstruction work on the Iowa 28-Iowa 5 intersection was completed in 1957. Iowa 28, from Norwalk northerly to Iowa 5, was again resurfaced in 1977.

The present facility, in the rural portion of the project, follows a straight horizontal alignment. The vertical geometrics, however, are deficient in the northern half of the project area, resulting in numerous no-passing zones and inadequate sight distance requirements. In the rural portion of the project corridor, over 60% of the route has a no passing restriction.

In addition, although some access rights have been purchased along Iowa 28 throughout the corridor area, many farm driveways, field entrances and private residential driveways are still located at random along both sides of the route, permitting, in some areas, unlimited and uncontrolled ingress and egress.

The character of traffic within the project corridor varies greatly. The majority of it, however, is similar to traffic which is present near many small bedroom communities, located adjacent to large metropolitan areas. In this case, a majority of the people living in the project area commute to work in Des Moines, utilizing Iowa 28. An Origin and Destination Traffic Study for the Des Moines Metropolitan Area was conducted by the Iowa Department of Transportation in 1973. An interview station on Iowa 28, located a mile north of the Norwalk Corporate Limits, just south of the Lakewood and Echo Valley Estates housing developments, revealed that over 69% of the trips passing through the interview station had an origin or destination in Norwalk.

Peak traffic hours on the route occurred around 8:00 a.m. and 5:00 p.m., when most home-to-work and work-to-home trips took place. The Origin and Destination Study revealed that these traffic volumes accounted for approximately 37% of the total 24-hour traffic volumes on Iowa 28 in the project area. Other trips in the project corridor included a mix of work-related trips, personal business trips, shopping trips, and trips of a social or recreational nature.

The population within the study area has been increasing rapidly during the past several years. Warren County's population increased 31.7% between 1960 and 1970, the second largest county population increase in the State, for that period. Between 1970 and 1975 the population increased an additional 15.6%. A significant percentage of that increase can be attributed to the development and growth of two new housing developments (Lakewood and Echo Valley Estates), which have located adjacent to Iowa 28 in the project area. Lakewood, which was begun in 1968, currently houses an estimated 1800-2000 individuals while Echo Valley Estates, begun in 1975, currently has an estimated population of approximately 280. In addition, between 1960 and 1974, the population of Norwalk increased approximately 64%. This increasing population trend in Warren County, and particularly the study area, can be attributed mainly to its proximity to the Des Moines metropolitan area.

Future population projections predict continued urbanization in the northern Warren County study area. Ultimate population projections for Lakewood are in excess of 11,000,

while Norwalk is projecting a 100% increase in population by the year 2000. The County, as a whole, is projecting a 60% population increase by the year 2000.

The present facilities within the project corridor, the deficiencies which exist, and a brief discussion of the study area population and future population projections have been discussed in the previous paragraphs. Studies related to sufficiency ratings, accident analysis, maintenance costs and traffic volumes through the study corridor were conducted to further define transportation needs in the area. The findings of these various studies follow. At the end of this section is a discussion of the basis for the negative declaration.

Sufficiency Study

In Iowa, a numerical system of rating the adequacy of primary roads has been developed. This numerical system is called a Sufficiency Rating Study. The purpose of the study is to measure the adequacy of a particular primary road section in its proper perspective with all other primary road sections in the state. Data on pavements, bridges, curves and other features of highways are recorded and analyzed. Three basic factors enter into the establishment of a sufficiency rating on a section of road: structural adequacy, safety and service. Structural adequacy measures the ability of the road section to stand up under traffic and climatic conditions. Safety measures the ability of the road section to offer the motorist reasonable assurance of safe movement. Service measures the capability of the road to accommodate vehicular traffic with a minimum of conflict.

The basic rating is then adjusted for intolerability, if necessary, based on the tolerable standards approach, thereby arriving at a tolerability adjusted rating. A tolerable standard is defined as the minimum prudent condition, geometric or structural, which can exist without being in critical need of upgrading. An adjustment is then applied to the tolerability adjusted rating to determine the volume to capacity adjusted rating, based on the volume to capacity ratio of the road. The volume to capacity ratio is the ratio of the volume of traffic that is using a road to the volume of traffic that it could be expected to carry at a given level of service. An adjustment is then applied to the volume to capacity adjusted rating to determine the continuity adjusted rating. The purpose of this adjustment is to reflect poor individual road sections interspersed between long sections of appreciably better road. This is the last adjustment and the result is the final sufficiency rating. A rating of 100 is used to represent the maximum sufficiency rating obtainable on any given road section. The numerical sufficiency rating classification is as follows:

SUFFICIENCY RATING SCALE

Points	Rating
100 to 90	Excellent
89 to 80	Good
79 to 65	Fair
64 to 50	Tolerable
49 to 0	Critical

PAVEMENT WIDTHS AND 1978 SUFFICIENCY RATINGS

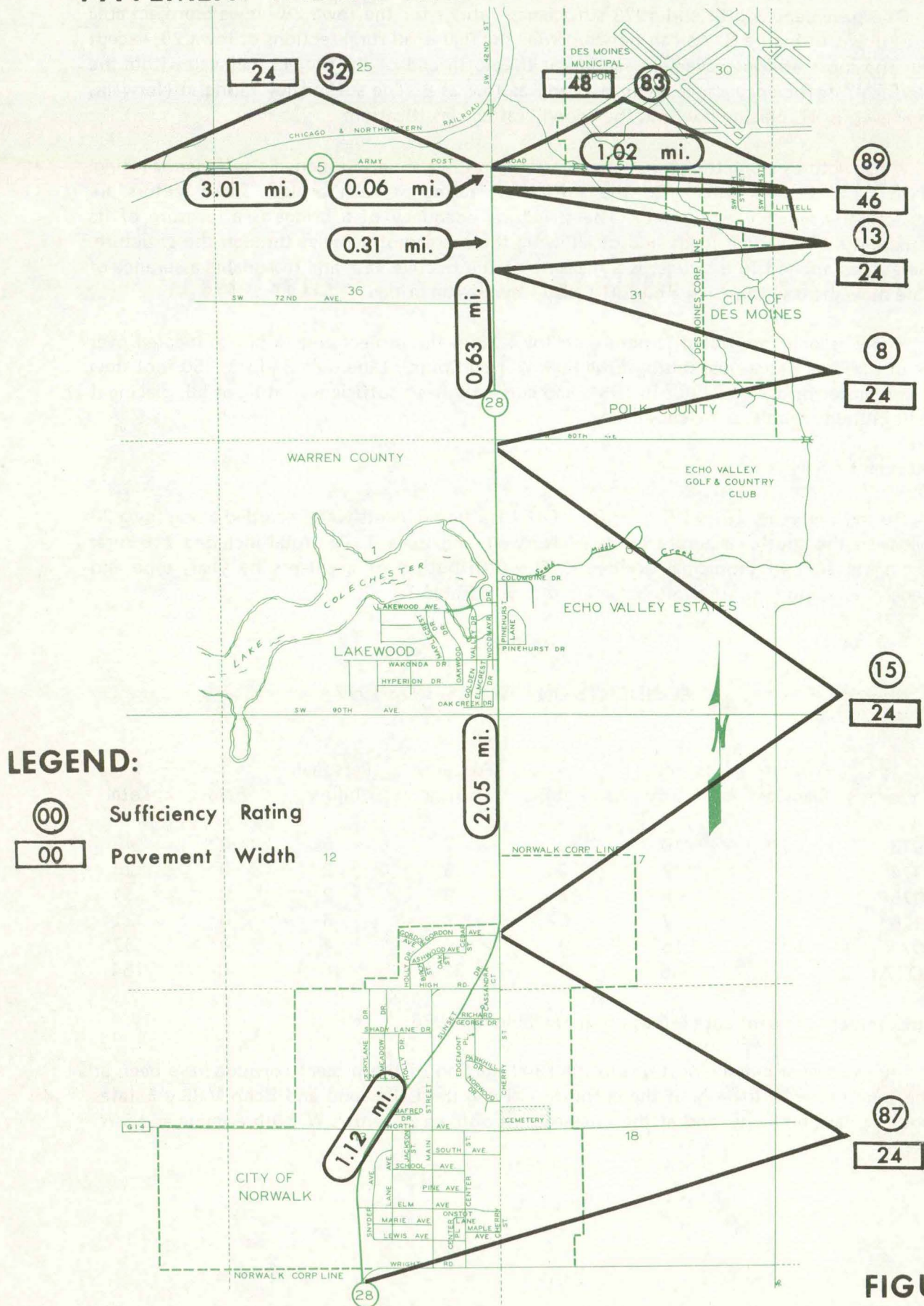


FIGURE 3

The pavement widths and 1978 sufficiency ratings for the Iowa 28 - Iowa 5 project area are shown in Figure 3. As can be seen from the figure, all rural sections of Iowa 28, except for the short 46-foot pavement section at the north end of the project, fall well within the "critical" sufficiency range, with a rating as low as 8. The sufficiency rating in Norwalk, however, is 87, placing it within the "good" rating classification.

All structures along the primary road system in Iowa are also assigned a sufficiency rating. Two basic factors enter into the sufficiency rating of each bridge. These factors are structural adequacy and safety. The structural adequacy of a bridge is a measure of its capability of carrying loads and of allowing the passage of vehicles through the structure. Safety, as applied to a bridge, is a measure of the relative ease and reasonable assurance of safe movement with which a motorist may traverse the bridge.

There is only one rated structure on Iowa 28 in the project area, a bridge located over South Middle Creek, just south of the Polk-Warren County Line. The 24-foot x 50-foot steel beam/girder bridge was built in 1934, and currently has a sufficiency rating of 58, placing it within the tolerable sufficiency range.

Accident Analysis

During the years 1973-1977, a total of 164 traffic accidents were recorded along Iowa 28 between the south corporate limits of Norwalk and Iowa 5. The total included 116 rural accidents and 48 municipal accidents. The distribution of accidents by year, type and general location (i.e., rural/municipal) is shown in Table 1.

TABLE 1
ACCIDENTS ON IOWA 28--1973-1977

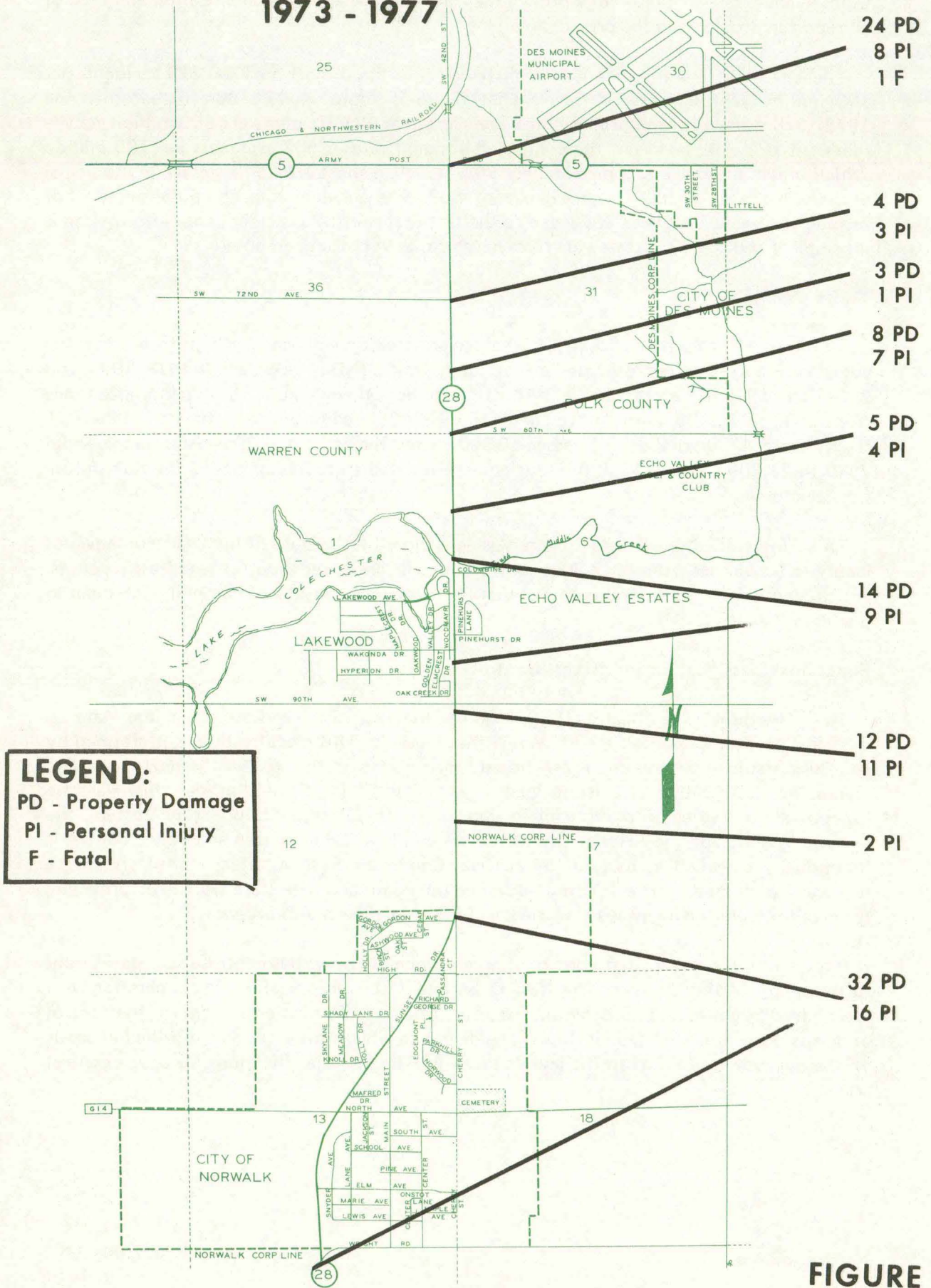
Year	Property Damage	Personal Injury	Fatal	Property Damage	Personal Injury	Fatal	Total
1973	24	10	0	7	5	0	46
1974	12	7	0	5	2	0	26
1975	16	6	1	9	2	0	34
1976*	8	7	0	3	3	0	21*
1977	10	15	0	8	4	0	37
TOTAL	70	45	1	32	16	0	164

*Incomplete accident data information available for 1976.

The highest accident locations in the rural portion of the project corridor have been at the junction with Iowa 5, at the entrances serving the Lakewood and Echo Valley Estates housing developments, and at the intersections of Iowa 28 with S.W. 80th Avenue and S.W.

REPORTABLE ACCIDENTS - IOWA 28

1973 - 1977



LEGEND:
 PD - Property Damage
 PI - Personal Injury
 F - Fatal

FIGURE 4

90th Avenue. See Figure 4 for a project map showing the approximate location and type of all reported accidents in the project area.

The 1973-1977 rural accident rate on Iowa 28 in the project area was 329 accidents per 100 million vehicle miles of travel. That figure is approximately 80% higher than the 1972-1975 statewide rural primary highway average of 181 accidents per 100 million vehicle miles. In Norwalk, however, the computed accident rate of 602 accidents per 100 million vehicle miles of travel is approximately 30% less than the 1972-1975 statewide municipal primary highway accident rate average of 852. The accident rate computations do not include the years 1976 and 1977 due to the fact that the 1976 accident data information is incomplete and the 1977 statewide rates have not, as yet, been computed.

Traffic Analysis

The need for a four-lane facility in the project area is evidenced by high forecast traffic volumes. Figure 5 shows estimated average daily traffic (ADT) volumes for 1978, 1984, and 2004. The 1978 average annual daily traffic volumes on Iowa 28 in the corridor area range from 3400 to 10,100, with an average ADT of 8240. In addition, the estimated 1984 ADT ranges from 4700 to 13,300 (average-10,900) while the estimated 2004 ADT ranges from 7500 to 21,300 (average-17,400). Trucks are estimated to represent 5% of the total future traffic volumes.

These forecast volumes were prepared using standard techniques of the Office of Advance Planning (Iowa Department of Transportation) and are based upon recent traffic counts, anticipated growth rates, and with Arterial Highway 592 considered complete and open to traffic in the year 2004.

Functional Classification and Access Control

The Functional Classification Law requires that all roads and streets in the state be classified according to the type of service they provide. This classification is performed by county classification boards. These boards meet periodically to classify new roads and review the classification of existing roads in each county. Iowa's rural primary highways are functionally classified into three main categories: the Freeway-Expressway System, the Arterial System, and the Arterial Connector System. Iowa 28 in Warren and Polk Counties is functionally classified as part of the Arterial Connector System, which consists of those roadways providing service for short-distance intrastate and interstate traffic, or providing connections between highways classified as Arterial or Freeway-Expressway.

Experience has shown that control of access along highways has contributed significantly to the safety of those routes. The Iowa Department of Transportation, in cooperation with the Federal Highway Administration, has established a classification system for the control of access onto primary roads in Iowa. The degree to which this access is controlled depends on the highway facility, its traffic and its location. The four classifications for access control are:

ESTIMATED 1978, 1984, AND 2004 AVERAGE DAILY TRAFFIC VOLUMES

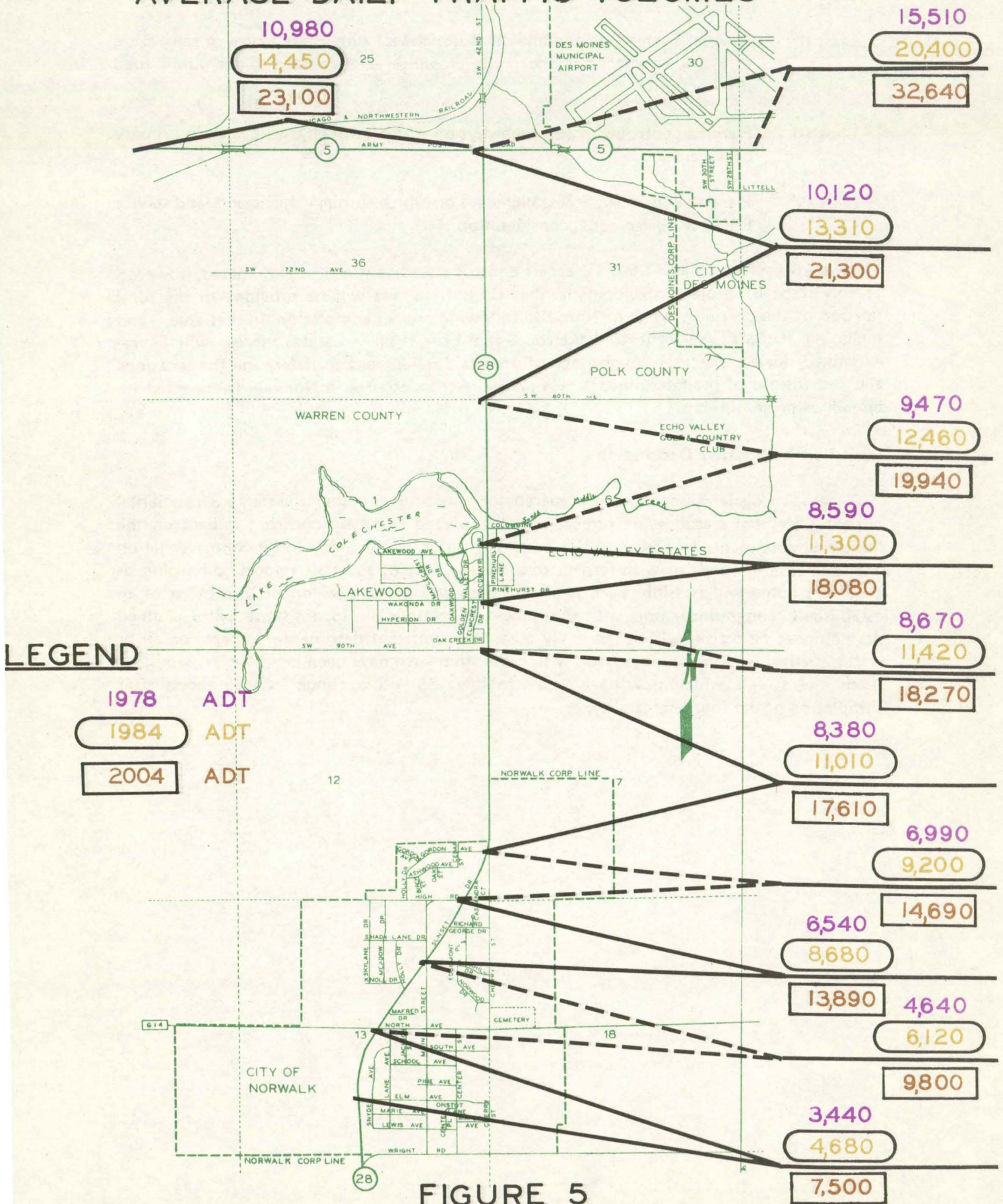


FIGURE 5

- Class I - Interstate System or other fully controlled access highways.
- Class II - Arterial System, a four-lane divided highway with interchanges or separation at major intersections and grade crossings at designated minor public road intersections.
- Class III - Planned controlled access highways on which through traffic is given primary consideration.
- Class IV - Planned controlled access highways on which through traffic and land service traffic are given equal consideration.

Iowa 28 presently has a Class IV access control classification. It is anticipated, however, at this stage of project development, that Class III access will be provided in the rural portion of the corridor, north of Norwalk, following project completion. In that area, and including the area adjacent to Lakewood and Echo Valley Estates, access will be re-examined during the final design stage of project development to determine the locations and dimensions of predetermined access points. Access control in Norwalk is expected to remain as presently exists.

Basis For the Negative Declaration

A negative declaration is being prepared for this project rather than an environmental impact statement because the project is not expected to have significant impact on the human environment. In addition, the proposed action is not likely to be controversial on environmental grounds or with respect to the availability of adequate relocation housing, as only one home will possibly be displaced. There will be no division or disruption of an established community nor will the proposed action be inconsistent with planned development objectives within the study area. No significant detrimental impacts on air or water quality or ambient noise levels within the study area have been identified. All existing roads and streets which now have access to Iowa 28 will continue to have access after completion of the four-lane facility.

SECTION II. DESCRIPTION OF THE PROPOSED ACTION

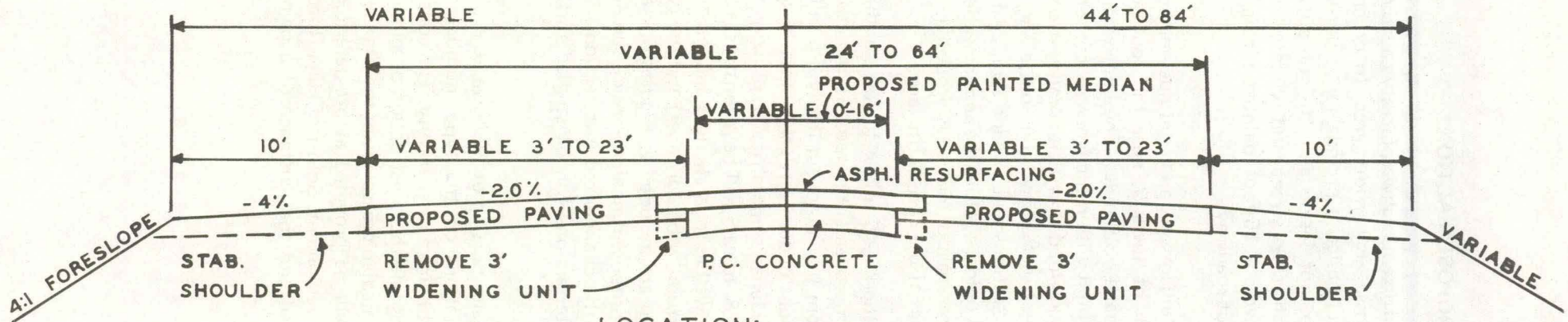
The purpose of the proposed project is to provide an efficient highway facility capable of handling present and future traffic demands in the Iowa 28 corridor area. In order to provide this necessary capacity, the proposed action will basically provide for a four-lane divided facility with an eight-foot raised median, four-foot inside and 10-foot outside shoulders, and separate left-turn storage lanes at all city street and county road intersections. South of High Road, in Norwalk, however, a 16-foot painted median is proposed. The new facility will replace the existing 24-foot roadway.

The proposed construction will begin near Elm Street in Norwalk and continue northerly along the existing highway alignment to the junction of Iowa 5, near the southwest corporate limits of Des Moines, a distance of approximately 3.9 miles. The improvement proposes urban, 65-foot curbed pavement sections to be built within the Norwalk corporate limits and within the area located adjacent to the Lakewood and Echo Valley Estates residential housing developments. Rural 64-foot pavement sections will be built along the remainder of the project corridor. The rural pavement sections will provide two, 24-foot traffic lanes separated by a raised median and inside shoulders, while the urban sections, except for an area south of High Road in Norwalk, where a painted median is proposed, will differ only by the addition of six-inch curbs to the outsides of the two traffic lanes.

From the beginning of the project, in Norwalk, northerly 2.0 miles, to just south of Wakonda Drive, the southernmost Lakewood access, the improvement proposes symmetrical widening, with utilization of the existing grade line. From that point northerly 1.5 miles, complete reconstruction is proposed in order to upgrade substandard vertical geometrics and increase sight distances. The final 0.4 mile will again be widened symmetrically, utilizing the existing grade line. In addition, at its junction with Iowa 28, Iowa 5 will be reconstructed to provide two through traffic lanes from each direction, as well as separate right and left-turn lanes. Typical cross sections showing the type of section (rural, urban or taper) and the type of improvement (reconstruction or symmetrical widening) are included as Figures 6, 7 and 8. The typical sections, however, while illustrating the proposed median - inside shoulder design, do not represent the layout plan proposed for the channelized intersections. The design layout of the left-turn storage lanes at those intersections will be studied further during final project design.

The type of improvement proposed throughout the major portion of the Iowa 28 project area, with the raised median concept, will place limitations on the type, number and location of access points onto the highway, the end result being a safer facility. The concept in those areas (north of High Road in Norwalk) will necessitate the construction of a limited number of access roads and/or drives. Access points and median crossovers in the rural areas and through the Lakewood-Echo Valley Estates area will be provided at pre-determined locations, selected at the final design stage of project development. South of High Road in Norwalk, however, private entrances will be maintained and the existence of a painted median in the area will allow for uncontrolled access.

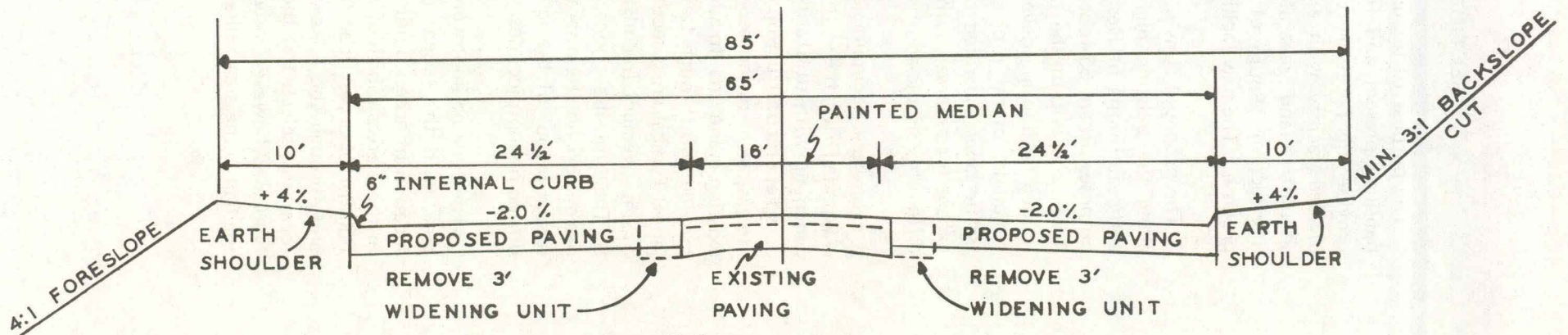
TYPICAL CROSS SECTION RURAL TAPER SECTION SYMMETRICAL WIDENING



LOCATION:

BEGIN PROJECT (STA. 431+00) - STA. 444±

TYPICAL CROSS SECTION URBAN CURBED SECTION SYMMETRICAL WIDENING

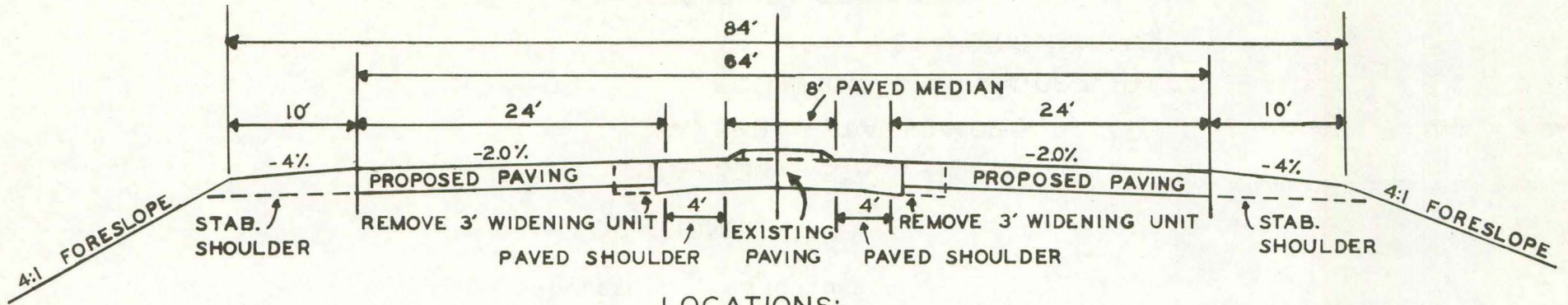


LOCATION:

STA. 444± - STA. 475+50±

FIGURE 6

TYPICAL CROSS SECTION
RURAL SECTION
SYMMETRICAL WIDENING

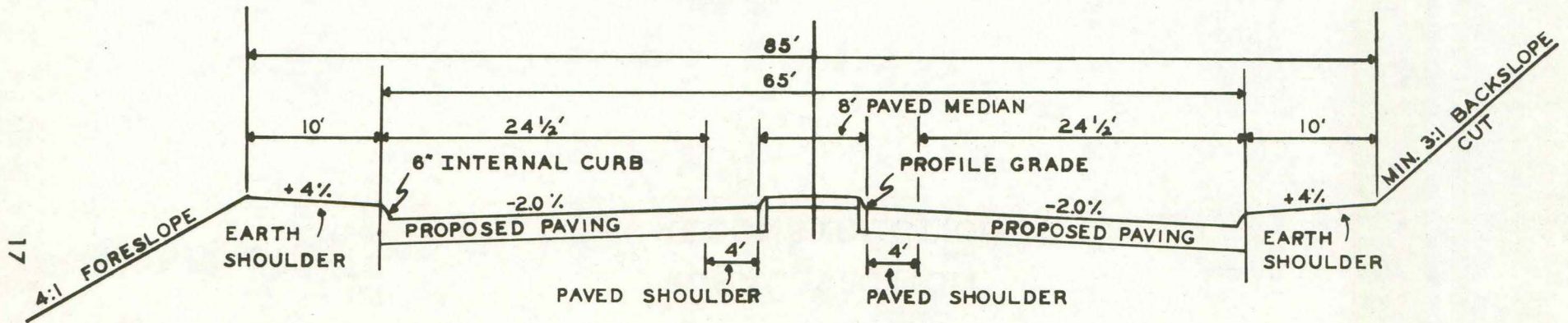


LOCATIONS:

STA. 475+50± - STA. 538±

STA. 33± - END PROJECT (STA. 52+45)

TYPICAL CROSS SECTION
URBAN CURBED SECTION
RECONSTRUCTION

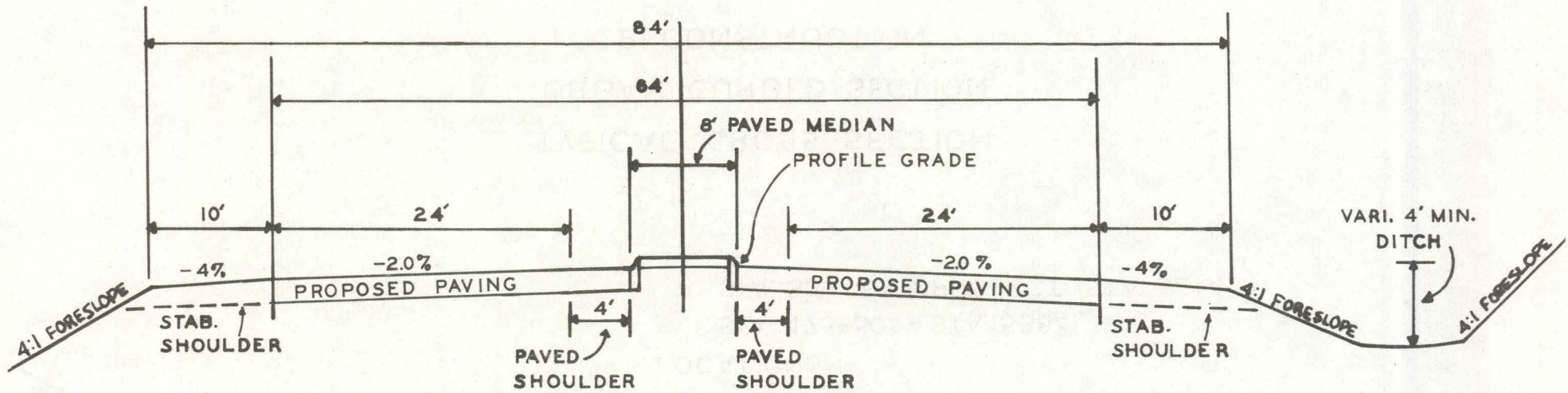


LOCATION:

STA. 541± - STA. 563±

FIGURE 7

TYPICAL CROSS SECTION RURAL SECTION RECONSTRUCTION



LOCATIONS:

STA. 538± - STA. 541±

STA. 563± - STA. 584+02.5

EQUATION: STA. 584+02.5 (BACK) =
STA. 0+00 (AHEAD)

STA. 0+00 - STA. 33±

FIGURE 8

The proposed Iowa 28 study corridor is in an area which is anticipated to ultimately undergo future urban development. Presently, most of the land adjacent to the highway, except for in the Norwalk and Lakewood-Echo Valley Estates area is in agricultural production and, according to the Intensity Development Pattern contained in the 208 Waste Treatment Management Plan, land use in the corridor is not expected to change significantly by the year 2000, except in the corridor area directly north of the Norwalk corporate limits, where some residential development is forecast. The proposed four-lane improvement should encourage residential development in that area, and may ultimately encourage growth in the remainder of the study corridor, as well.

SECTION III. SOCIAL, ECONOMIC, AND ENVIRONMENTAL CONTEXT OF THE AREA

Summary of Technical, Social, and Economic Studies

During recent years, numerous governmental and planning agencies have prepared various studies depicting the social, economic, and environmental features of the area and identifying community policy objectives and plans. These were used in the examination of the content of this project and, as such, the information presented in these studies will be summarized here. All of these reports are available at the Office of Project Planning, Planning and Research Division, Iowa Department of Transportation.

Comprehensive Plan 2000 - Norwalk Iowa (1974) - This report was prepared by the Central Iowa Regional Association of Local Governments (CIRALG) to serve as a guide for the future physical development of the community. The plan is comprised of elements for land use, transportation, utilities, community facilities, recreation, and housing assistance, and reflects the goals and desires of the community.

The Des Moines Area - Past, Present and Future (1974) - The purpose of this publication was to provide community leaders and citizens with information about the major social and economic changes affecting the Des Moines Area. In addition to past and present trends, emphasis was also given to the implications those trends will have for individuals, communities, Polk and surrounding counties and the metropolitan area.

Des Moines Metropolitan Area Origin and Destination Traffic Study (1973) - This report was prepared by the Iowa Department of Transportation and provides information on the travel habits of residents of the Des Moines Metropolitan Area as well as of those passing through survey stations located on the perimeter of the study area. The report contained information from a survey station located on Iowa 28, approximately one mile north of the Norwalk Corporate Limits. This information has helped to determine the relationship between land development patterns, and to form a reliable foundation for making future travel projections.

Interim and Final Route Location Study Reports - Freeway 592 - Polk and Warren Counties (1974 & 1975) - These reports were prepared to study alternative corridor-route locations and to determine the most desirable type of highway facility to serve as the southern link in the proposed Beltway System around the City of Des Moines and its suburbs. The reports detailed the findings of studies carried out to evaluate socio-economic conditions, traffic service, engineering, and environmental impacts of several alternatives within the corridor. Draft and Final Environmental Impact Statements have also been prepared for the 592 project.

Des Moines 208 Areawide Water Treatment Management Plan (1976) - This report was prepared by the Central Iowa Regional Association of Local Governments (CIRALG). The primary purpose of the 208 Planning Process, nationwide, was to achieve the country's 1983

Water Quality Goals. One of the additional local goals was the development of an Intensity Development Pattern (IDP) for the metropolitan area. The IDP was also adopted by the transportation, technical, and policy committees of CIRALG. Knowledge of these growth trends and land use plans in the Des Moines Metropolitan Area are necessary for evaluating future transportation needs in the corridor area.

Natural Environment

To obtain a meaningful analysis of the impacts that a project may have upon any given environment, it is necessary to understand existing conditions within that environment. In the following section a picture of both the regional and the localized environment of the project area has been set forth. From a localized description, the project corridor may appear to be very similar to most rural areas in Iowa. However, natural resources differ from one part of the state to another. The excursion into southern Iowa's regional resource patterns—which coincide with the state's geologic history—will give the reader a setting for evaluating the proposed project and will also assist him/her in understanding southern Iowa's resource assets. It may also be helpful in planning for future activities in southern Polk and northern Warren Counties.

Climate and Weather

Iowa's climate is characterized by marked seasonal variations. Typically, Iowa has six months of warm weather with prevailing moist southerly air flow from the Gulf of Mexico. These air flows produce the rainfall which makes Iowa's climate suitable for agriculture. During the winter months colder, drier air, which prevails from a northwesterly flow, brings dry Canadian air into the state. Iowa is primarily an agricultural state; the combination of climate, soils, and technology has made Iowa a leader in the value of agricultural goods produced in the nation. The growing season for warm weather crops extends from mid-May to early October.

Geology of the Area

The topography of Iowa is very closely related to its glacial history. The project area in Polk and Warren Counties also reflects this history. The Iowa 28 corridor lies in the Kansan drift area. The uneven surface and rounded hills of this region cover most of the state's four southern tiers of counties. Major streams of this older land surface have broad flood plains - one to three miles wide - which are flanked by hills and ridges; the area is characterized by broad, open valleys and tabular uplands.

Rivers and Streams

The North River, which drains the project area, arises in Guthrie County in western Iowa and flows easterly to its confluence with the Des Moines River in Polk County, east of Des Moines. The river drains 400 square miles as it courses through rolling farmland. In its lower reaches the North River has been straightened and channelized. This watershed is part of the

larger Des Moines River basin which drains into the Mississippi River. A small portion of the project in Section 36 T78N-R25W drains into the Raccoon River.

South Middle Creek, which is a tributary of the North River, passes through the project corridor; it drains a 10.9 square mile area at the point where Iowa Highway 28 crosses it in Section 6 T77N-R24W. At its confluence with the North River in Section 10 T77N-R24W, South Middle Creek drains 20.4 square miles. In the mid 1960's, South Middle Creek was dammed near Iowa 28 to form Lake Colechester, a 150-acre lake which is the nucleus for the Lakewood residential subdivision. Below the dam and downstream from Iowa 28, the creek has been diverted to serve the Echo Valley Country Club golf course. A short distance below the diversion, South Middle Creek is utilized for the two sewage lagoons which serve both the Echo Valley Estates and Lakewood residential developments.

Minerals and Coal Resources

Underlying the surface features from Fort Dodge southerly to the Missouri border is a broad expanse of bedrock derived from the Pennsylvanian period. Layered in these rocks are extensive deposits of bituminous coal which extend throughout 24 counties across southern Iowa. The measured coal reserves generally lie in a band paralleling the Des Moines River valley, with the heaviest measured and indicated reserves in Marion and Mahaska Counties. However, Polk County has been a heavy producer in the past, yielding a total of 51 million short tons from 1880 through 1963.(1)

Warren County's coal reserves are not so well known as those of Polk County since relatively little mining has been done there, and much of that was mined for local consumption. Inferred reserves are quite good, however, and future coal production in Warren County is thought to be likely.(2) Well record data in Warren County shows that the coal reserves dip toward the southwest; this indicates that coal beds may lie deeper in the western part of the county. Upper seams which outcrop at Middle River in Section 2 T77N-R24W and at North River in Sections 19 and 20 T77N-R24W reveal important coal horizons, which are uniformly 18 to 30 inches thick. More extensive data on Iowa's coal reserves in Warren County will not be available until drilling is done in that part of the state, to inventory Iowa's coal supplies.(2)

All of Iowa's coal contains sulphur, making it necessary to wash it or burn it in stacks containing scrubbers to remove the hazardous sulphur compounds. With recent Federal standards requiring all new power plants to have scrubber-type stacks, Iowa's coal could become competitive with the cleaner-burning coals of the Eastern states and the extensive coal fields of Wyoming and other West Central states.(2)

Building stone is virtually absent in the project corridor. However, both Polk and Warren Counties have good supplies of clay; and brick, tile, and pottery works have been important industries in the past in Des Moines, Carlisle, Hartford, and Indianola. Today, clay products are manufactured in Adel and Des Moines.

No quarries are located along Iowa 28, and no sand or gravel deposits are anticipated to be discovered within the construction area.

Soils and Prime Farmland

The principal soil association found throughout the project corridor is the Shelby-Sharpsburg-Macksburg; it comprises about 6.2% of the state's area and covers 3,470 square miles. The Sharpsburg silt loam is the major soil-type found adjacent to Iowa 28 in Polk County. In Warren County, Sharpsburg, Macksburg, Colo and Grundy silty clay loams are the principal soil-types found adjacent to the project.

In response to the nation's growing concern for the loss of farmland to urban expansion and other developments, a national program has been implemented to identify the country's prime and unique farmlands. By definition, prime farmland is that land best suited for production of food, feed, forage, fiber and oil seed crops. Unique farmland is land other than prime farmland which is used for specific high-value food and fiber crops. In addition, other criteria have been established by the United States Department of Agriculture to identify these lands.

The Iowa Department of Transportation has coordinated with the Soil Conservation Service in Iowa to locate and quantify the prime and unique soils required by the implementation of the Iowa 28 highway project. The results of this study are given in Section V, Probable Impacts of the Proposed Action on the Environment.

Vegetation and Wildlife

The rolling topography of the study area contrasts sharply with the flat lands to the north. Scattered woodlands are common in this part of Iowa, interspersed with corn and soybean fields and cattle pastures. River bottoms and tributary streams are wooded; frequently, hillsides are also wooded. Timber found along streams consists primarily of soft maple (*Acer saccharinum*), willow (*Salix nigra* and *Salix interior*), cottonwood (*Populus deltoides*), and box elder (*Acer negundo*). Few elms (*Ulmus americana*) are left since ravaged by the Dutch Elm disease. On the higher ground, ash (*Fraxinus sp.*), walnut (*Juglans nigra*), red and white oaks (*Quercus rubra*, *Q. alba*, and *Q. macrocarpa*) and hickory (*Carya ovata*) are found.

Generally, the woodlands are used for pasture; consequently, reproduction of high quality woodland is not possible. Timber production is not generally a consideration for management of these woodlands. Good timber trees such as walnut, cherry, oak, and hickory have been cut out in the past. The current practice of livestock grazing or the development of housing units is the trend for woodlands in Polk and northern Warren counties, both of which are influenced by the nearby metropolitan Des Moines area.

The remainder of the corridor lands which were originally prairie have been put into agricultural use. Plowing and tiling have made possible the extensive production of corn,

soybeans, and alfalfa hay. Tiling has also converted the perennial streams to ones with intermittent flow. As a result, along streams, vegetation is usually weedy. Roadside vegetation is frequently a mixture of grasses, forbs, and weeds. Little native vegetation remains in the project corridor.

Permanent and migratory wildlife in the study area is directly related to the available habitat. Vegetation type and available food and cover influence the kinds of animals and their relative abundance. Table 2 gives a generalized list of wildlife found in this part of Iowa.

TABLE 2
SOME MAMMALS OF POLK AND
WARREN COUNTIES

Common Name	Scientific Name
Badger	<i>Taxidea taxus</i>
Beaver	<i>Castor canadensis</i>
Coyote	<i>Canis latrans</i>
Eastern Chipmunk	<i>Tamias striatus</i>
Eastern Cottontail	<i>Sylvilagus floridanus</i>
Eastern Gray Squirrel	<i>Sciurus carolinensis</i>
Eastern Fox Squirrel	<i>Sciurus niger</i>
Eastern Mole	<i>Scalopus aquaticus</i>
Deer Mouse	<i>Peromyscus maniculatus</i>
Gray Fox	<i>Urocyon cinereoargenteus</i>
Least Shrew	<i>Cryptotis parva</i>
Longtail Weasel	<i>Mustela frenata</i>
Meadow Vole	<i>Microtis pennsylvanicus</i>
Mink	<i>Mustela vison</i>
Muskrat	<i>Ondatra zibethica</i>
Opposum	<i>Didelphis virginiana</i>
Plains Pocket Gopher	<i>Geomys bursarius</i>
Raccoon	<i>Procyon lotor</i>
Red Fox	<i>Vulpes vulpes</i>
Spotted Skunk	<i>Spilogale sp.</i>
Striped Skunk	<i>Mephitis mephitis</i>
Thirteen-lined Ground Squirrel	<i>Citellus tridecemlineatus</i>
Western Harvest Mouse	<i>Reithrodontomys megalotis</i>
White-footed Mouse	<i>Peromyscus leucopus</i>
Whitetail Deer	<i>Odocoileus virginianus</i>
Woodchuck	<i>Marmota monox</i>

Agricultural practices and other activities of man such as the construction of golf courses and roadways have increased available habitat for the pocket gopher and thirteen-lined ground squirrel, both of which prefer short-grass situations. The meadow vole has adapted well to agricultural situations but probably has only local distribution in southern Iowa. Creation of artificial lakes and impoundments have also created new habitats, especially for grassland species of mammals.(3) Migratory waterfowl, amphibians and other animals are also attracted to these impoundments. Roadside ditches frequently provide habitat for pheasants, rabbits, badgers, plus some occasional other wildlife.

Continual decline of wooded areas in Iowa has, however, increased pressure on wildlife in those areas. This trend has resulted in declining populations of wildlife occupying deciduous forests and the woodland edges. In turn, wildlife species which are capable of surviving in the replacement habitat (i.e., pasture, cornfields, golf courses, or roadside ditches) generally expand their populations.

Adjacent to the Iowa 28 project, wildlife habitat consists of roadside ditches, a few farmsteads, corn and soybean fields, Lake Colechester and South Middle Creek, and the Echo Valley Golf Course. Additionally, a grove of sycamores (*Platanus occidentalis*) is located adjacent to the highway, just north of the Warren-Polk County Line. South Middle Creek has been dammed above the Iowa 28 bridge to form Lake Colechester, and several hundred feet downstream the creek is utilized for two sewage treatment lagoons.

There are no state preserves, wildlife refuges, or wetlands in the immediate project corridor. The Raccoon River valley, to the north of the project, and the region lying between the North and Middle Rivers, south of the project area, represent the best available wildlife habitat near the proposed project. Turkey vultures (*Cathartes aura*) and various species of hawks inhabit the river corridor and the area between the North and Middle Rivers.

Social Environment

Regional and Community Growth

The population trends existing in Iowa during the past two decades have reflected a continued decline in the rural, farm population, while urban and suburban communities have experienced population growth.(4) The growth patterns of the Des Moines Area* and Warren County reflect these similar patterns. (See Table 3, STUDY AREA POPULATION TRENDS) Particularly significant to Warren County is the 147.6 per cent increase in rural, non-farm population over the ten year period from 1960 to 1970. Warren County is one of only seven counties in Iowa which showed a net in-migration during the past decade. This increase in population is relative to the fact that this county is adjacent to the Des Moines

*The Des Moines Area includes an eight county area surrounding and including the city of Des Moines.

TABLE 3

STUDY AREA POPULATION TRENDS

	1950	1960	1970	1950-1960 % Change	1960-1970 % Change
Warren County	17,758	20,829	27,432	17.3	31.7
Urban ^a	8,655	12,084	15,917	39.6	31.7
Norwalk	435	1,328	1,745	205.3	31.4
Rural nonfarm ^b	937	2,219	5,495	136.8	147.6
Rural farm ^c	8,166	6,526	6,020	-20.1	-7.8
Polk County	226,010	266,315	286,101	17.8	7.4
Urban	191,852	240,230	259,324	25.2	7.9
Des Moines (City)	177,965	208,982	200,587	17.4	-4.0
Rural nonfarm	25,098	19,407	21,187	-22.7	9.2
Rural farm	9,060	6,678	5,590	-26.3	-16.3
Des Moines Area ^d	411,228	462,094	502,206	12.4	8.7
Urban	304,830	368,791	411,468	21.0	11.6
Rural nonfarm	37,484	38,964	44,990	3.9	15.5
Rural farm	68,914	54,339	45,748	-21.1	-15.8

Source: *Population Trends of Incorporated Places in Iowa 1900-1970*, U.S. Census of Population, "General Social and Economic Characteristics"; and *Population Data—Iowa—1950-1960-1970*. Iowa Municipalities. January, 1971.

^aUrban population includes all incorporated towns and cities.

^bRural nonfarm population includes persons in rural territories who did not meet the definition for the rural farm population.

^cThe rural farm population consists of persons living on places of 10 or more acres from which sales of farm products amounted to \$50 or more in the preceding year or places of less than 10 acres from which sales of farm products amounted to \$250 or more in the preceding year.

^dThe Des Moines Area includes an eight county area surrounding and including the City of Des Moines.

Metropolitan Area.** The 4.3 percent net out-migration of Polk County and the decline in population of the City of Des Moines are additional factors indicating that the trend toward suburbanization in Des Moines has spread to adjacent counties. With continuing urbanization and advancements in agricultural technology predicted, it is projected that there will be a further decline in the demand for human resources in agriculture. As a result, the number of farm families and the farm population in the study area is likely to continue declining.

The major city in the study area is the City of Des Moines, located just north of the project corridor. Growth trends, policies and potentials in the Des Moines Metropolitan area are part of the framework necessary for evaluating future highway needs in the project area. As the City of Des Moines attracted new industry and employment over the last thirty years, residential development and employment centers began to spread out. In the past two decades, Des Moines suburban growth has taken place primarily to the west and northwest.

In April of 1975 the Central Iowa Regional Association of Local Governments (CIRALG) was awarded a grant from the U.S. Environmental Protection Agency to conduct a two-year study which would comply with the requirements of Section 208 of the Federal Water Pollution Control Act Amendments of 1972. The primary purpose of the 208 Planning Process was to achieve the nation's 1983 Water Quality Goals. In addition to this national goal, there were several local goals established. One of these was the development of an Intensity Development Pattern for the Des Moines Metropolitan Area. In April of 1976 this Intensity Development Pattern was also adopted by the CIRALG transportation, technical, and policy committees.

The 208 Land Use Committee approved the use of the Real Estate Research Corporation population projection of 400,000 for the Metropolitan Area by the year 2000. Future population growth in the Intensity Development Pattern would primarily occur in the urban "core" area centered upon the City of Des Moines, with major extensions of growth generally occurring to the west and north. The communities surrounding the urban "core" would become increasingly urbanized, and in some cases urban development along corridors between the "core" and outlying communities would be intensified. The City of Des Moines plus the adjacent suburbs would attract nearly 50 percent of the total growth in the Des Moines area. The outlying communities, such as Norwalk, would account for approximately 40 percent of the total growth. The largest amount of growth would occur in communities to the north and east of Des Moines, while somewhat less growth would occur in the communities to the south and west.(5)

It is anticipated that, ultimately, future growth trends in the Iowa 28 corridor will be a continuation of the present trend toward low-density residential development. The increase in rural non-farm population would be offset to some extent by a continued loss in rural farm population. See Section IV., Land Use Planning, for a more comprehensive discussion of land use.

**The Des Moines Metropolitan Area refers to the Standard Metropolitan Statistical Area (SMSA). The Bureau of Census defines the Des Moines SMSA as the city of Des Moines and Polk County.

The City of Norwalk, located in the southern portion of the project corridor, grew slowly during its first 50 years of incorporation, increasing from a population of 287 in 1900 to 435 in 1950; however, it was caught up in the suburban movement of the 50's. In that decade, Norwalk's population increased 205%. The growth rate dropped considerably in the next decade, but still showed an increase of 31%. A Special Census taken in 1974 indicated a continuation of that growth trend into the 70's, as it estimated the 1974 population to be 2313. The projected population for Norwalk in 1990 is estimated to be 3700-4000; and in the year 2000, the projected population is estimated at 4500-4900.(6)

In the late 1960's, unincorporated residential development began to occur in the corridor area, with the platting of the first subdivision in the planned community of Lakewood. Development began south of privately-owned Lake Colchester, just west of Iowa 28. There is presently an estimated population of 1800-2000 persons, and the community is continually growing, with an ultimate population potential of approximately 11,250.(7)

Echo Valley Estates is a second unincorporated residential development in the project area, and is located directly east of Lakewood. This recent development has an estimated population of approximately 280 persons, with no immediate plans for further expansion.

Neighborhoods in this study corridor are not characterized by the pedestrian-oriented activities often found in older, more cohesive, traditionally ethnic neighborhoods, which are more common to a central city location. Rather, the low density neighborhoods in this area are generally characterized by auto-oriented activities and are populated by relatively young, middle income, white Americans. With the exception of the schools, most resident activities take place outside the immediate neighborhood area. The automobile provides the chief means of transportation for social, recreational and shopping activities.

There are no neighborhoods in the corridor area distinguished by religion, race, ethnic background, age or economic status. According to the 1970 Census of Population, 0.3% of the population of Warren County and 4.6% of Polk County's population were members of minority races. Table 4 shows the ethnic composition of Warren and Polk Counties.

TABLE 4

ETHNIC COMPOSITION OF THE 1970 POPULATION
POLK AND WARREN COUNTIES

	Total Black & Other Races	% Black & Other Races	American Black	American Indian	Asian American	Others
Warren County	90	.3	30	10	9	41
Norwalk	8	.5	—	—	—	8
Polk County	13,118	4.6	11,916	251	356	595
Des Moines (City)	12,408	6.2	11,425	197	304	482

Transportation Facilities

Several modes of transportation have become an integral part of the total transportation system in Polk and Warren Counties. The Metropolitan Transit Authority operates a bus system within the Des Moines Metropolitan Area. This service presently terminates at the southern Des Moines city limits. In addition, Brothers Bus Company of Indianola currently provides round trip commuter bus service between Des Moines and several communities in Warren County, including Norwalk, Lakewood and Echo Valley Estates.

There are two privately owned taxicab companies which serve the outlying Des Moines Metropolitan Area. Service for the study corridor residents generally requires about one-half hour lead time. Taxicabs are not regularly stationed within the study corridor.

Warren County has a rural transportation service for the elderly and handicapped, funded by the Office of Economic Opportunity, through the Community Action Center.

Scheduled intercity bus service in Polk County is provided by four carriers: Continental Trailways, Jefferson Lines, Greyhound Lines-West Division, and Sedalia-Marshall-Booneville Stage Lines. Continental Trailways is the only line which travels Iowa 28 south to Norwalk. The other three lines utilize other routes into and out of Des Moines.

One of the State's key railroad terminals is located in Des Moines. The general Des Moines area is served by six railroad lines; however, no line is located within the Iowa 28 study corridor. Rail passenger service available in Iowa consists of an Amtrak route, which traverses the southern part of the state. The passenger service station nearest to the corridor area is located approximately 30 miles south.

The Des Moines Municipal Airport is located just northeast of the study corridor. It is classified as an Air Carrier Airport and serves both first and second level carriers. First level carriers are sometimes referred to as intracontinental trunk carriers which provide scheduled service to the larger communities and heavy-density routes. The three first level carriers serving the Des Moines area are American Airlines, Braniff Airways, and United Airlines. Second level air carriers, sometimes referred to as regional carriers, provide scheduled service between smaller cities and connect with first level carriers. Second level carriers serving the Des Moines area are North Central Airlines and Ozark Airlines.

Public Facilities and Services

The following discussion of public facilities and services includes a description of fire and police protection, health centers and ambulance services, educational facilities, religious institutions and public utilities in the project area.

Fire protection in the corridor area is primarily provided by the Norwalk Fire Department. A portion of the corridor area, however, east of Iowa 28 in Greenfield Township, is served by the Des Moines Fire Department.

Police protection and local law enforcement in the study corridor is the primary responsibility of the Polk and Warren County Sheriff's Departments. The community of Norwalk, however, does have it's own police force.

The majority of the hospital and medical care needs for residents in the corridor area is provided by facilities in Des Moines. There are over 600 medical personnel, eight hospitals, one alcoholic treatment center and one rehabilitation center located there. Two private ambulance services are also located in Des Moines as are a large number of nursing care facilities. Medical services in Norwalk are provided by one physician and two dentists. There are two nursing homes in Norwalk which provide health care for the elderly, the Norwalk Manor and the Regency Care Center. Ambulance service in the Norwalk area is provided by the Warren County Ambulance Service and the Norwalk fire department rescue unit.

The study corridor includes portions of two school districts: the Norwalk Community School District and the Des Moines Independent Community School District. The Norwalk Community School District has one high school, one middle school and three elementary schools. All of the schools are located in Norwalk with the exception of one elementary school, which is located in Lakewood. Total enrollment for the 1977-78 school year was 1672 students. A large number of students are bussed into Norwalk, with Iowa 28 being a major route utilized in transporting them. Students living in the Polk County portion of the study corridor are bussed into Des Moines to school.

There are several facilities for higher education located in the study area, the largest being the Des Moines Area Community College, which provides preprofessional and undergraduate courses as well as vocational training programs. The main campus is located in Ankeny, with two additional campuses located in Boone and Des Moines, to serve those areas.

In addition to the Community College, other educational institutions in the area include: Drake University, the College of Osteopathic Medicine and Surgery, Grandview College, the American Institute of Business, the Open Bible College and two schools of nursing. These are all located in Des Moines. Two facilities located outside of Des Moines are Simpson College, in Indianola, and a bible college, in Ankeny.

There are approximately 300 churches and three synagogues serving the Des Moines area, and residents of the study corridor. In addition to these, Lakewood has one church, the New Life Lutheran Church. The Norwalk community has three churches, representing three denominations: Baptist, Methodist and Christian.

A public library is located in the City of Norwalk and serves the community of Norwalk as well as the regional area.

There are several public utility lines located in the study corridor. Water is supplied to Norwalk, Cumming and Echo Valley Estates by a feeder main from the Des Moines waterworks. The feeder main runs east of Iowa 28, within the highway right-of-way. The

Lakewood community has its own well, which is located adjacent to Iowa 28. Electrical power lines, high voltage transmission lines, telephone lines and gas lines are located in the study corridor as well. Sanitary waste treatment for Norwalk is provided by a 15 acre, single cell lagoon, located about one mile south of the city limits. Trunk lines of the collection system cross, and run adjacent to, portions of Iowa 28 in the City of Norwalk. The communities of Lakewood and Echo Valley Estates have sewage lagoons located approximately one-half mile east of the highway corridor, with trunk lines crossing the Iowa 28 corridor near Lakewood.

See Figure 9 for a map showing the locations of public facilities and services in the study area.

Parks and Recreational Areas

Outdoor recreation areas and open spaces are becoming vital aspects of our community structures. It is essential to both the physical and mental well-being of people today, to have access to those facilities. It is within a radius of approximately 30 miles that residents will most often utilize recreational facilities.(6) The exception is for long weekend camping trips, or similar mini-vacations, when recreationists may travel greater distances to selected facilities. The Iowa 28 study area, with its growing suburban population and a relatively active age distribution, will place a high demand on recreational facilities. The following discussion will include the major outdoor recreational facilities which are available to residents of the project area, within a 30-mile radius.

The city of Norwalk has four city parks, three of which are on public school property, and are being used in cooperation with the schools. The total amount of land in these three parks is approximately 82 acres. The fourth city park consists of 4.34 acres, and is located in the center of Norwalk. See Figure 9.

Lakewood has two parks, one located on Lake Colchester, and a five-acre park located in the south-central part of the community. In addition to these two parks, there is Lake Colchester, a privately owned, 150-acre lake. All recreational facilities located in Lakewood are exclusively for the use of members of that community.

The Central Iowa Regional Planning Commission, in its 'Initial Central Iowa Outdoor Recreation Plan', recommended that steps be taken to preserve the immediate lands along Middle Creek and the North River from intensive development. South Middle Creek, which crosses the study corridor, provides an important natural drainage function for the study area. Suburban development in the northern portion of Warren County has been accompanied by water oriented recreation. Lakewood and Echo Valley Estates both incorporate considerable use of the South Middle Creek basin for recreational activities. Continuation of these types of developer-provided recreational facilities could go a long way in meeting the projected future demand for urban parks in the study area.

Several public and private golf courses are located near the study area. Echo Valley Golf and Country Club is a private club, located just east of and adjacent to the project corridor.

LOCATION OF PUBLIC FACILITIES AND SERVICES

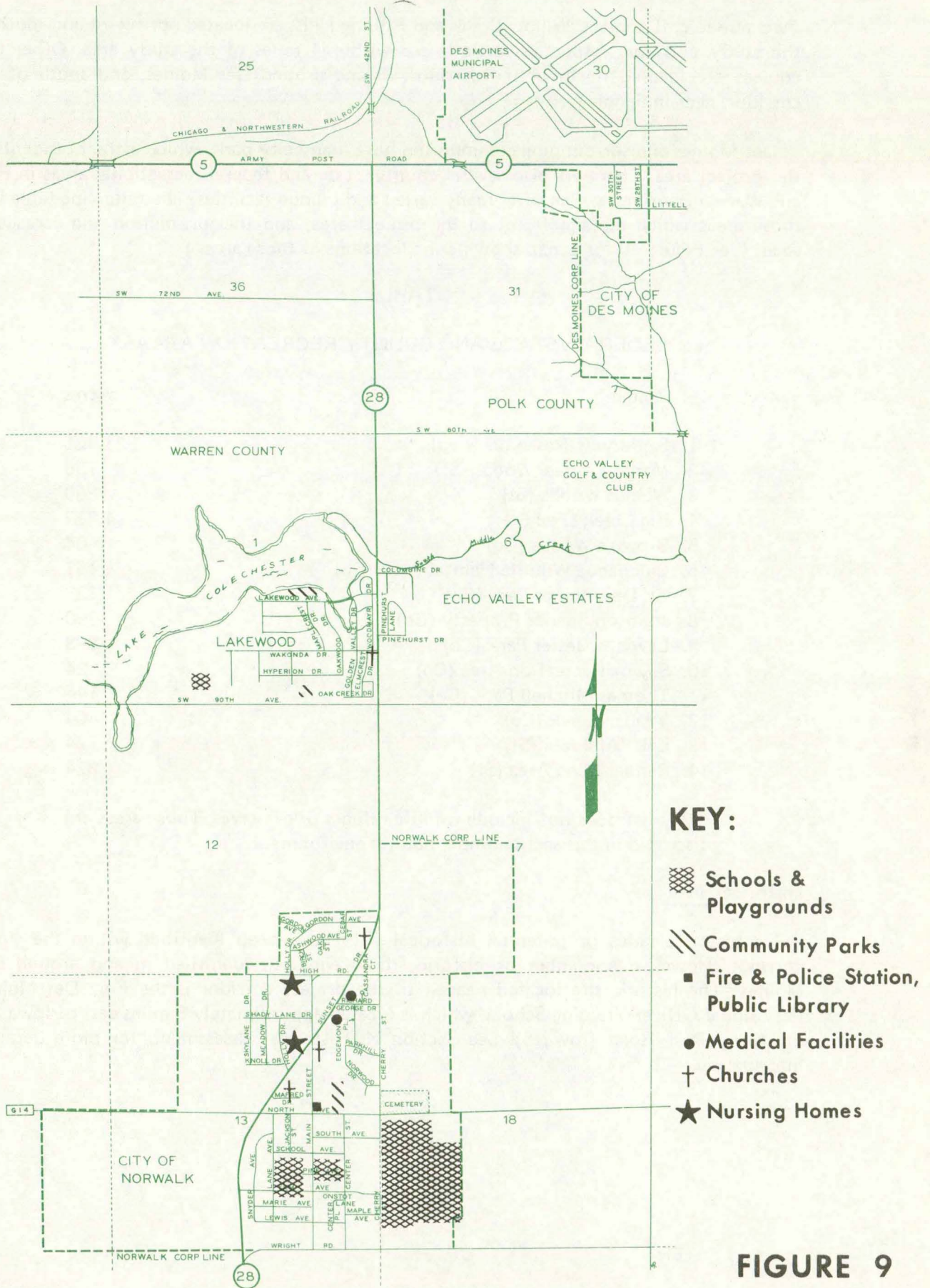


FIGURE 9

Two public golf courses, Willow Creek and Rolling Hills, are located northwest and south of the study corridor, respectively. Both are within 4 miles of the study area. Other golf courses are located north of the corridor, in and around Des Moines, and south of the corridor, near Indianola.

Des Moines and surrounding communities have many city parks which attract residents of the project area. There are also several county, state and federal recreational areas in Polk and Warren Counties, which offer many varied and unique facilities. The following table lists those areas which are significant to the project area, and the jurisdiction and acreage of each. (See Figure 10 for a map showing the locations of those areas.)

TABLE 5

FEDERAL, STATE AND COUNTY RECREATION AREAS*

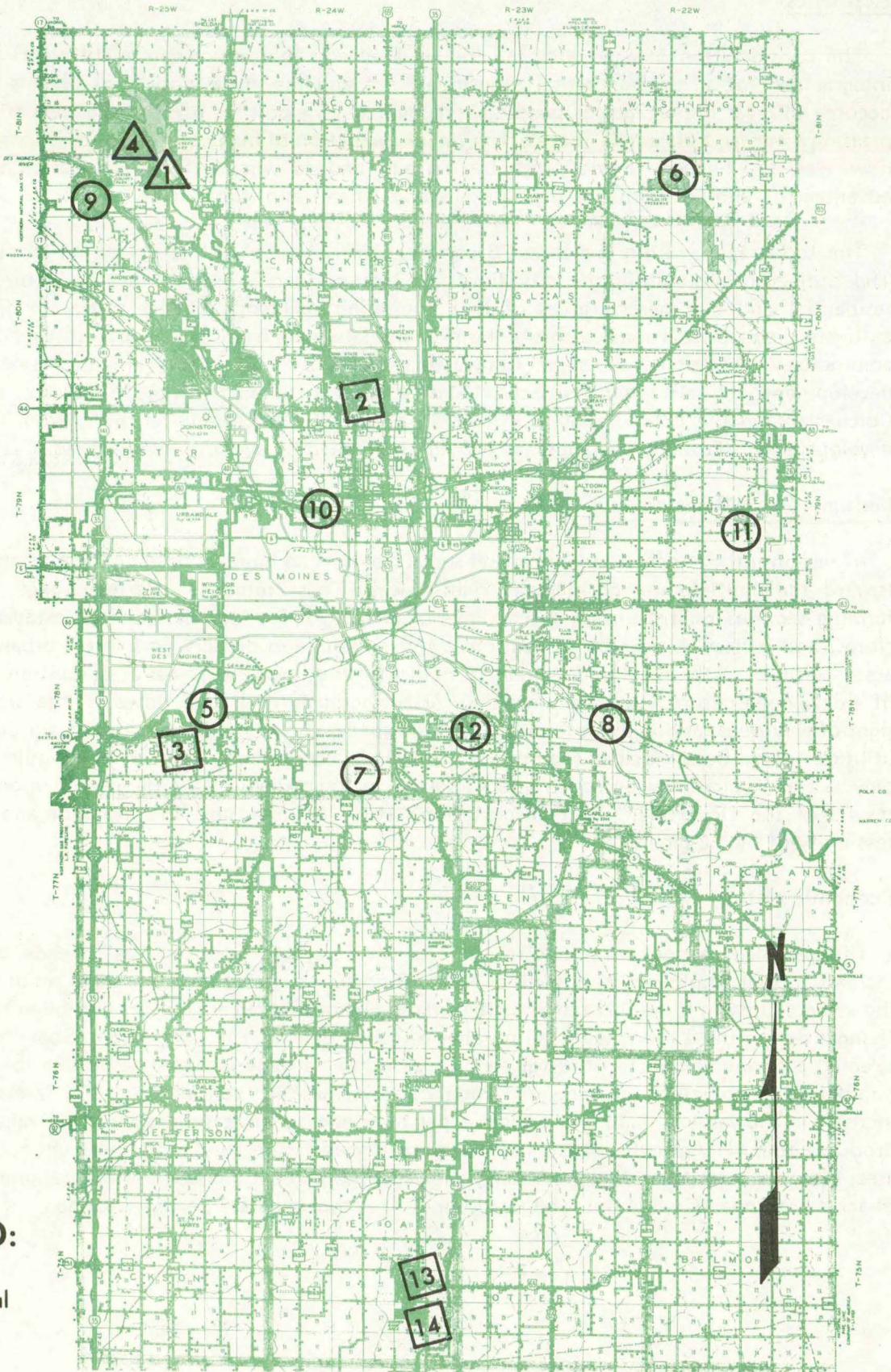
Name	Acres
1. Saylorville Reservoir (Fed)	23,921
2. Margo Frankel Woods (St)	136
3. Walnut Woods (St)	260
4. Big Creek (Fed-St)	4,317
5. Brown's Woods (Co)	484
6. Chichaqua Wildlife Habitat Area (Co)	1,161
7. Ft. Des Moines Park (Co)	133
8. Johnson Spence Property (Co)	390
9. Lewis A. Jester Park (Co)	898
10. Saylor Recreation Area (Co)	24
11. Thomas Mitchell Park (Co)	144
12. Yeader Creek (Co)	464
13. Lake Ahquabi (St)	774
14. Banner Mine Area (St)	224

*This list does not include wildlife refuges or preserves. Those areas are discussed in this section under natural environment.




Historical Sites

No historical sites or potential historical sites have been identified within the study corridor. However, a number of historic sites have been identified in and around Des Moines. The historic site located nearest to the project corridor is the Fort Des Moines Provisional Officer Training School, which is located approximately 3 miles east of Iowa 28, on Army Post Road (Iowa 5). See Section X, Historical Assessment, for more detailed information.

PARKS AND RECREATIONAL AREAS IN POLK AND WARREN COUNTIES



LEGEND:

-  Federal
-  State
-  County

Note: The numbers correspond to TABLE 5.

FIGURE 10

Aesthetics

The consideration of aesthetics and the visual effects that a highway might create is an integral part of an environmental assessment. Art and the visual impact of objects have become of great importance as people are recognizing the positive psychological benefits of pleasing views and attractive spaces. The major evaluation of highway aesthetics is based on how well the highway blends with the terrain, and to what extent its location takes advantage of, and compliments, the natural scenic amenities of the corridor.

The topography within the Iowa 28 corridor consists mainly of open, rolling farmland. The project begins within the city limits of Norwalk, and proceeds northerly through residential and commercial areas of that community. Outside of the corporate limits, cultivated, agricultural land becomes the predominate view from the road, with very little commercial development in sight. Contrasting with this rural scenery are the residential developments of Lakewood and Echo Valley Estates, with their manmade features: Lake Colchester and the Echo Valley Golf and Country Club. Proceeding northerly from these developments to Iowa 5, the landscape is again dominated by agricultural land uses.

Multiple Use of Right-of-Way

In response to modern economical and social needs, road builders have directed attention toward the multiple use of highway right-of-way. These multiple uses may range from farming sections of it, to using space above or beneath it for facilities such as restaurants, stores, and offices. Maximum utilization is most feasible in densely populated, urbanized areas. Because of the rural and residential nature of the Iowa 28 project area, multiple use, of a developed nature, is not economically or aesthetically desirable. However, the project right-of-way does, and will continue to, provide space, above and below ground, for public utilities. In addition, a further example of multiple use of highway right-of-way would be a bicycle trail, which may be constructed adjacent to Iowa Highway 28, depending upon the results of the Department of Transportation's study to determine the need for and the feasibility of such a facility.

Economic Setting

The prevalent economic trends in the Des Moines Area over the past decade show increasing total employment, a decline in the proportion of persons working and residing in the same county, and an increasing median family income. Area agriculture exhibited rapid changes during the 1960's, with the number of farms declining by 20 percent. Some other selected economic characteristics for agriculture in that decade included: a decline in farm population, a decline in the acres of farmland, an increase in the average size of farms, an increase in the value of land and buildings per farm and an increase in the market value of products sold.(4) Agricultural trends in Warren County were similar to the eight-county area, with one exception. Warren County showed a 0.6 percent increase in the total number of acres of farmland, while the total Des Moines Area showed a 1.4 percent decline.

The most significant increases in employment have been for women and persons employed in the professions, wholesale and retail trade, and the service industries.(4) Employment in agriculture experienced a sharp decline during the 1960's. Warren County experienced trends similar to the eight-county, Des Moines Area; however the employment growth rates in most of the industries in that county were significantly greater than for the other counties. Warren County also experienced the highest percentage of employment increase (48.2 percent) in the area, as compared with the overall average of 17.8 percent for the total eight-county area, and 8.6 percent for the State of Iowa. The high rate of employment growth in Warren County can be attributed, in part, to the high rate of population growth in that county over the past decade.

During the 1960's all eight counties in the Des Moines Area experienced a decline in the proportion of persons working and residing in the same county. The largest decrease was experienced by Warren County (19.8 percent). The decline is relative to the fact that Warren County is adjacent to the Des Moines Metropolitan Area, and has been affected by the trend toward suburbanization. In 1970, only 44.1 percent of the labor force in Warren County worked in the county in which they resided.

Economic trends in the Iowa 28 corridor area are similar to those experienced in Warren County. The predominantly agricultural and residential character of the study area does not enable it to provide full employment for area residents. Therefore, the economy of the area is largely dependent upon employment available in Des Moines, where there are approximately 380 factories manufacturing over 500 products. Overall, wholesale and retail trade provide the greatest number of jobs - with manufacturing, services, and government also providing a significant number.

Most existing employment in Norwalk is associated with construction contracting, trucking, personal services or commercial retail sales. The majority of Norwalk's labor force, however, commutes to the Des Moines metropolitan area for employment.(6) The largest employer in Norwalk is the Norwalk Community School District, which employs approximately 106 persons. Other employers in the vicinity reporting ten or more employees include: McAninch Corporation, Contract Transport, Norwalk Ready-Mixed Concrete, Norwalk-Cumming State Bank, and Masonry by Fredregill, Inc.

Norwalk has a somewhat limited retail trade area, again, due to its close proximity to the Des Moines metropolitan area. The primary factor related to this lack of economic influence is the fact that Norwalk is predominantly a commuter-oriented community, with less than 10 percent of the work force residing in Norwalk, also employed there. Consequently, many goods and services may be purchased outside of Norwalk, near places of employment. There is also a lack of industrial firms, which would require supportive commercial services. This lack of industry is attributed to the absence of rail service to Norwalk and to the limited supply of natural gas to the area. According to the Retail Sales and Use Tax Report for the quarter ending December 31, 1976, there were only 36 retail establishments located in Norwalk, resulting in a limited drawing power and a limited selection of goods and services.

Per capita sales in 1970 indicate the overall strength of retail activity in the study area, and in the State. The City of Des Moines dominates the retail trade market in the area, with

nearly double the per capita sales of the statewide average. Norwalk's per capita sales, on the other hand, is approximately one-third of the statewide average.

Although it may be difficult for Norwalk to compete with the City of Des Moines for retail trade, there is the potential for increased sales of certain goods and services. The future of commercial growth in Norwalk will largely depend upon that community's ability to support and stimulate a sound growth policy, and to attract area consumers. An improved transportation facility and increased population growth in the study corridor will probably increase this potential for commercial growth.

The communities of Lakewood and Echo Valley Estates are, presently, primarily residential. It is estimated that over 95 percent of the work force living in those communities commute to the Des Moines metropolitan area to work. There are two commercial establishments located in the study corridor, outside of the Norwalk city limits. Only one of the two establishments, however, a combination convenience food store and gas station, is located adjacent to Iowa 28, just south of Lakewood.

SECTION IV. LAND USE PLANNING

In evaluating the context of the proposed project, it is necessary to examine both the existing land use of the area and the policies and plans that are under consideration by the surrounding communities for future development. The Des Moines Metropolitan Area and the Norwalk community have recently adopted an Intensity Development Pattern (IDP) land use plan for the metro area. The IDP, prepared as part of the Des Moines 208 Areawide Waste Treatment Management Plan study, encourages development within existing incorporated areas in order to promote orderly, contiguous and economical development.

Presently, most of the land in the Iowa 28 corridor is being utilized for agricultural purposes. Transportation facilities and residential developments occupy the major portions of remaining land. Within the study area, the majority of commercial and industrial land uses are found in the City of Norwalk, with only two commercial establishments located outside of the corporate limits, near Lakewood. Only one of those two establishments, however, is located adjacent to Iowa 28. See Figures 11 and 12 for maps showing present and future land uses, as provided by the Central Iowa Regional Association of Local Governments in the 208 Plan.

According to the Intensity Development Pattern, land use in the project corridor is not expected to change significantly by the year 2000, except in the corridor area directly north of Norwalk. Residential development will be encouraged to locate within the corporate limits, and adjacent to the City of Norwalk, thus preserving agricultural land and preventing unbalanced and inconvenient urban sprawl.








The Iowa 28 improvement will probably encourage the trend toward residential development in the southern portion of the corridor area. In addition, the Class III Access Control Standards of the improvement would allow for the ultimate possibility of orderly residential and commercial development within the remainder of the study corridor, although not directly adjacent to the highway. However, actual development will depend on enforcement of the local and area-wide policies on land use, as well as on the county and city zoning regulations.

Future land use patterns could also be affected by the construction of proposed Arterial Highway 592, particularly in the interchange area. Compatibility of the highway with future land uses can, again, be maintained through local county and city zoning regulations.

This proposed four-lane improvement will serve the anticipated population growth in the study corridor. Both the Warren County Zoning Office and CIRALG have expressed agreement that a four-lane facility would be compatible with future planned developments in the study area. No other Federal actions are in conflict with this proposed project.

1975 PRESENT LAND USE

LEGEND

- RESIDENTIAL - LOW DENSITY 
- RESIDENTIAL - MEDIUM DENSITY 
- NON-RESIDENTIAL LOW INTENSITY 
- NON-RESIDENTIAL MEDIUM INTENSITY 
- CROPLAND 
- PASTURE, FOREST & VACANT 
- PERMANENT OPEN SPACE 
- WATER 

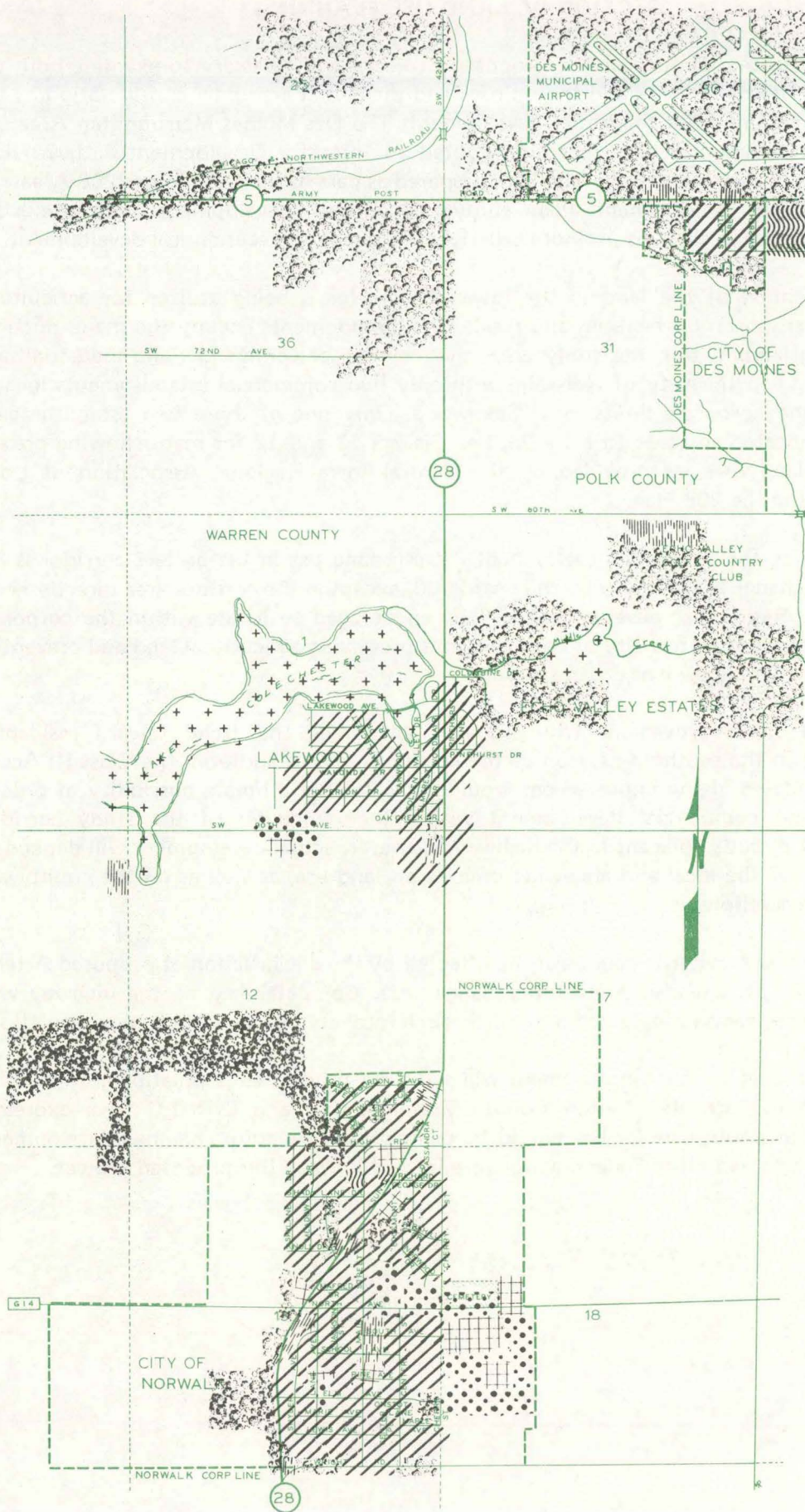


FIGURE 11

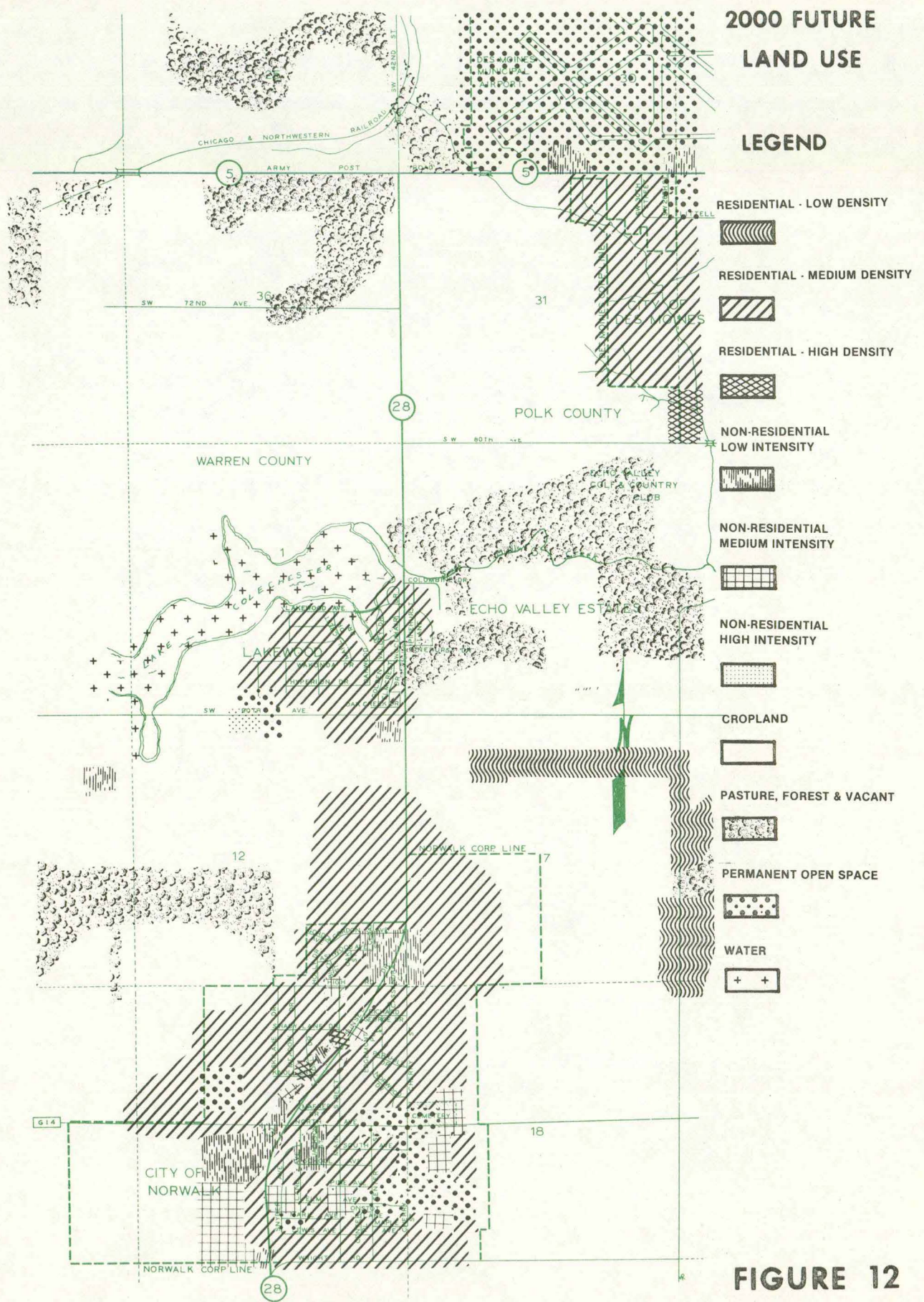


FIGURE 12

SECTION V. PROBABLE IMPACT OF THE PROPOSED ACTION ON THE ENVIRONMENT

The proposed four-lane improvement of Iowa 28 from Norwalk northerly to Army Post Road (Iowa 5) will benefit the commuting population located south of Des Moines. It will also serve emergency, recreational, and truck traffic between Des Moines and outlying areas to the south. The new facility will improve the traffic flow, improve safe driving conditions and will provide comfort and convenience for drivers using this route.

Natural, Ecological or Scenic Resources

Impacts on Recreational Areas

The proposed improvement of Iowa 28 is expected to enhance travel to recreational areas in the study corridor.

The project will not require the use of land from any publicly owned park, recreation area, or wildlife or waterfowl refuge wherein 4(f) land is involved. In addition, it is not anticipated that the proposed project will have other negative impacts on recreational areas in the study corridor. There are no parks, golf courses or recreational areas located adjacent, or near enough, to the roadway to be adversely affected by increased levels of noise or air pollution.

The "Do-Nothing" Alternate would not have adversely impacted the recreational areas in the corridor, nor would it have improved access to them.

Effects on Prime Farmland

Prime soils located adjacent to Iowa 28 are Sharpsburg silt loams in Polk County, and Sharpsburg, Macksburg, Grundy and Colo silty clay loams in Warren County. The 3.9 mile project will require the acquisition of approximately 23.6 acres of additional right-of-way; 7.3 acres are classified as prime farmland. A definition of prime farmland is included in Section III., page 24. No unique farmlands are located in the project corridor. (See Table 6.)

TABLE 6

PRIME FARMLAND REQUIREMENTS

County	Prime Acres	Right-of-Way Required-Acres	Per Cent of Total Right-of-Way
Warren	4.9	16.6	30%
Polk	2.4	7	34%
TOTAL	7.3	23.6	31%

Documentation of coordination with the Warren and Polk County Soil Conservation Districts concerning prime farmland right-of-way requirements in the project area is included in Section XI., Comments and Coordination, Part A.

The "Do-Nothing" Alternative would not have affected prime farmland.

Coal and Other Mineral Resources

Mineable coal deposits are known to exist in Polk and Warren Counties; however, development of this resource is not likely in the near future since the coal resources inventory for this region has not been completed. Possible future urban expansion south of Des Moines could also preclude any coal development in this area. Some indications are that underground mines in Iowa will provide an alternative to the more usual coal strip mines. This method may eventually be used to mine Iowa's coal, since stripping results in decreased soil productivity and necessary land reclamation.(1)

It is not anticipated that sand or gravel deposits will be found during excavation on this project. The geologic history does not indicate that any old filled stream channels or glacial outwash areas will be found at the depth necessary for highway excavation. If such resources are identified, however, mineral rights will be acquired with the purchase of that land.

Effects from the "Do-Nothing" Alternative would have had the same effect as the proposed action.

Vegetation and Wildlife Habitat

The existing vegetation along Iowa 28 consists of some overgrown fencerows and roadside ditches. There are also a few farmsteads with numerous trees and shrubs which provide cover for wildlife. The housing developments do not have any significant wildlife cover.

A grove of sycamore trees (*Platanus occidentalis*) stands on the east side of, and adjacent to, Iowa 28 in Section 31 T78N-R24W, directly north of S.W. 80th Avenue. The 25-30 trees apparently were planted some years ago; the pasture in which they are located is grazed, however, so understory is absent. This is the only grove of trees in the project area, due to intensive agricultural practices. Since this grove is situated in an open field and is not a good food source for wildlife, the loss of these trees is less than would be the loss of oak trees.

All or nearly all of these trees will be removed as a result of this project. With the present grade and location of the adjacent county road (S.W. 80th Ave.), these trees obscure the view to the north. Removal of the trees, and the new gradelines, will improve sight distance at that intersection.

The "Do-Nothing" Alternative would not have affected wildlife habitat.

Management of Right-of-Way for Wildlife Habitat

A total of 3.07% of Iowa's land area is utilized for all existing highways, streets, and county roads; of this, only one-third is roadway and two-thirds are rights-of-way. This land in right-of-way represents potential wildlife habitat. Studies have shown that with proper planting and management, highway rights-of-way make excellent pheasant nesting habitat. A state-wide policy of limited mowing and selective spraying provides vegetation year around on the highway backslopes and ditches. This policy of delayed mowing was instituted to insure that nesting habitat within the right-of-way was not disturbed during the peak nesting periods. Today, the roadside cover of ditches and slopes is especially valuable to wildlife since wooded areas and fence row cover in Iowa are being removed as more land is being placed under cultivation.

Social and Economic Impacts

There are two criteria to consider when selecting the appropriate standards for judging impacts: a) how much better or worse off the road user will be as a result of the highway improvement, and b) how other people (nonusers) will be affected as a result of the improvement. (8) This section on social and economic impacts will be concerned with indicators of impacts on both, the user and the nonuser. To determine the relative importance of the social and economic impacts, it is also necessary to refer to the local-regional goals of the study area. Previous sections in this statement have attempted to identify and analyze the major issues which reflect the goals and objectives of the region and communities within the corridor area.

A discussion of the impacts of highway improvements on the road-user will include such things as time savings, convenience, more efficient traffic flow, increased safety, and savings in energy and operating costs. In general, the proposed improvement of Iowa 28 from a two-lane facility to a four-lane facility will improve accessibility to the Des Moines metropolitan area for persons commuting to that area for work, recreation, education, and other services. The improvement will result in a time and cost savings for those travelers, as well as incorporate many new design features, to provide greater safety for the motoring public. These safety features will include medians to separate traffic, horizontal and vertical alignments consistent with design speeds, and partially controlled access points. The proposed four-lane improvement will also provide a safer, faster, more efficient route for emergency vehicles, such as ambulances, fire trucks, and police vehicles. With the "Do Nothing" Alternate, traffic growth would have continued on the present highway and congestion would have increased, thus hampering traffic movements and decreasing the efficiency and safety for all vehicles using the facility.

The bussing systems of the two school districts located within the study area, utilizing Iowa 28, will not be adversely affected by this improvement, nor will other transportation services. There will be no permanent road closures or road relocations involved with the proposed project; therefore, routes can remain unchanged. The proposed four-lane improvement will provide greater safety in transporting students and others, whereas the

"Do Nothing" Alternate would not have improved safety nor efficiency for the bussing systems.

An additional impact of the proposed improvement to the highway user will be the savings in oil, motor fuel, and other operating costs. These impacts are discussed in this section, under Effect on Energy Resources.

As a result of the substantial growth in traffic volumes, external effects, in the forms of noise, scenic disruptions, and air and water pollution have taken on greater importance to nonhighway users. These impacts will also be discussed, under their own headings, in this section. The following discussion will include additional impacts to the nonuser, such as the effects on area growth features, land use, land taxes and values, public facilities and utilities, community cohesiveness, minority groups and persons with special transportation needs.

Highway improvements are usually undertaken in areas which are already substantially developed and, as such, the improvements are, to some degree, a result, rather than a cause, of development and the increasing demand for land.(8) It is generally predicted, however, that highway improvements will hasten any changes in area growth trends and in land uses and values, which may already be underway. In the Iowa 28 corridor, the four-lane improvement will likely facilitate the continuation of the following, existing trends: an increase in population and residential development, particularly in the Norwalk area, and an increase in the number of persons commuting to employment in the Des Moines metropolitan area. For those persons seeking residence in a small community or rural area, which is within commuting distance of a larger city, the four-lane facility will result in a time and cost savings. This could intensify the attraction of residential developments in the project corridor and the surrounding rural areas.

Since there is not presently a trend toward significant commercial and industrial development in the corridor area, it is not anticipated that the proposed improvement will impact this development potential directly. However, possible future increases in residential development could increase the demand for goods and services, resulting in possible commercial growth in the corridor area. Actual development, though, will depend on a number of additional factors, including local and area-wide policies on planning and zoning, the provision of utilities, and more importantly, the availability of equal or more desirable locations for development, elsewhere in the area.

In summary, under favorable conditions, a new highway can serve as a catalyst for growth. This would not be a phenomena unfamiliar to the corridor communities, which have experienced substantial growth in the past decade. Growth in the corridor area, however, will probably continue in a fashion shaped by both the Intensity Development Pattern and prevailing social and economic forces.

While the "Do Nothing" Alternate would not have encouraged additional growth, the existing trend toward residential development in the corridor area would probably have continued consistent with the land use goals established in the 208 Plan, but likely at a slower pace than with the improvement, as proposed.

Although the acquisition of approximately 23.6 acres of right-of-way for this project will reduce the property tax base, at the time of the taking, and cause an immediate tax loss until reassessment, it does not necessarily follow that the tax base will be reduced permanently. It is anticipated that the proposed improvement will cause land values to rise at a faster rate than would otherwise occur, due to the increased potential for commercial and residential development. This should offset the initial tax loss and therefore, no significant overall impact on the corridor area should be experienced. Changes which may occur in these instances are considered to be "redistributional" in nature. They result in a change in the distribution of income within the corridor, not an addition or subtraction from the overall income. The "Do Nothing" Alternate would not have required any purchase of land, and thus, would have exerted no positive or negative influence on the existing tax base.

Data from previous studies shows that the impact of a highway is greatest on adjacent land, especially when that land is sold in smaller parcels and used more intensively. In the portions of the Iowa 28 corridor where future development is likely, it can be predicted that the conversion of agricultural or vacant land to residential or commercial use will initiate an increase in land values. This conversion, however, will likely be slowed somewhat by the restrictions imposed by Class III access control. Existing residential properties abutting the highway facility are on the other hand, likely to be less desirable to potential buyers, due to possible increases in noise levels and decreases in the air quality. The "Do Nothing" Alternate would have exerted no positive or negative influence on existing property values and the potential for land development and a corresponding rise in property values would not have been encouraged to the same extent as with the improvement, as proposed.

The following discussion will consider the effects that the proposed project will have on public and institutional facilities such as schools, churches, medical facilities, and other public buildings. Possible adverse effects on such facilities could result from direct takings, proximity effects, or the severance of traditional linkages with the community. In the study corridor there are six such facilities which lie adjacent to the highway right-of-way, three churches and three medical-care facilities. The highway improvement will require the purchase of property from one of the churches, and there will be some increase in the noise level at all six of the sites. (See the Noise Analysis discussion for more specific information). The proposed improvement will not sever any traditional linkages that these or other public facilities have with their surrounding community. Rather, the proposed improvement will improve access to those facilities. The "Do Nothing" Alternate would not have impacted public facilities, nor would it have improved access to them.

The Iowa 28 corridor communities are accustomed to integrating their activities with a highway in this corridor; therefore, the proposed improvement of Iowa 28 to a four-lane facility will not divide a neighborhood area nor disrupt cohesiveness and social ties within that community. There will be no permanent road closures or road relocations on this proposed project; thus, families will continue to retain previous community contacts and patterns of interaction. Since the neighborhoods within the study corridor are mostly auto-oriented, and most social, recreational and shopping activities take place outside of the

immediate neighborhood, the proposed improvement will likely benefit access for such activities. The "Do Nothing" Alternate would not have disrupted community character or cohesiveness, nor would it have facilitated travel in the corridor area.

The proposed project does not pass through a neighborhood established with a cultural, racial or religious identity and, as such, no minority groups will be affected by the proposed improvement. The "Do Nothing" Alternate would have had a similar affect.

In addition, the project will not cause greater travel hardships for those with special transportation needs or preferences (such as handicapped, low income or elderly persons); however, it also will not alleviate the transportation problems of those groups.

The construction of this project will involve utility relocations. A determination will be made during final design concerning relocation of the water line located adjacent to the highway. Plans for the relocation of these public utilities will be coordinated with the respective companies to assure that essential services to the public will be maintained at all times. The "Do Nothing" Alternate would not have required relocation of any public utilities.

During the early coordination stage of project development the Iowa Department of Transportation contacted the Federal Aviation Administration and the Director of Aviation for the City of Des Moines, requesting review of the proposed highway improvement concept as it related to proposed or anticipated future development plans at the Des Moines Municipal Airport.

Information obtained from the City Aviation Director, at that time, indicated that a consulting firm was in the process of developing an Airport Master Plan Study for the City of Des Moines. The Study had, at that time, progressed to the point where four concepts had been identified as alternatives for future Airport development.

While all four concepts proposed differing improvements, Concepts 1, 3 and 4 were similar in that they proposed improvements within the confines of the existing Airport boundaries. The three concepts proposed various combinations of runway and/or taxiway construction, relocation or lengthening. All four concepts proposed as part of their improvements, the lengthening of crosswind runway 5/23 (the NE/SW runway) from the existing 6500 feet to 7200 feet. This is the runway closest to the Iowa 28 project area, with a flight path directly over the highway. The consultant considered current land use planning and necessary clear zones associated with the runway in determining the maximum length to which the runway could be developed. Consequently, the lengthening of that runway, as proposed, would not in any way affect the type of improvement considered for Iowa 28.

Of the four concepts presented, only Concept 2 would have directly affected the Iowa 28 improvement. That concept proposed a new 9000-foot NW/SE runway parallel to the existing 9000-foot primary runway, as well as a relocated terminal building and new airport access, from the west. The concept would have required extensive property acquisition (488 acres) to the south and southwest of the existing airport, requiring the realignment of Army Post Road and possibly, the north end of Iowa 28.

The status of the Airport planning process (Master Plan Study) has been monitored these past months, since initial contact was established with the City Aviation Director, and, at this stage of project development (i.e. Final Negative Declaration for Iowa 28), it appears that Concept 4 will become the official plan for future development of the Airport. The Aviation Director, in a letter dated September 7, 1978, states that although the Des Moines City Council has not formally adopted a proposal, they have given tentative approval to that concept.

Concept 4, in addition to proposing the lengthening of runway 5/23, also proposes several additional improvements to the airfield, itself, including: (1) straightening the taxiway serving the airport's principal runway; (2) lengthening and relocating the General Aviation runway; and, (3) constructing additional taxiways. As previously stated, however, all improvements proposed under Concept 4 are planned within the confines of the existing Airport boundaries. In his September 7, 1978, letter, the Aviation Director states that the proposed plan, which has been modified substantially from its original form, would not infringe upon Iowa Highway 28, and it is their best guess, at this time, that Airport development would not so infringe between the current date and 1995. He also states, however, that since the plan has not become official, nor has it been finalized, they can do no more than guess as to possible future effects upon the highway. A copy of this letter is included in Section XI., Comments and Coordination, Part A.

Construction Impacts

Construction impacts are those which temporarily disrupt the environment while the project is being constructed. Noise and air pollution, erosion, inconvenience and possible disruption of utilities are the most common construction impacts.

Noise from heavy construction equipment and haul trucks will temporarily affect the noise environment in the surrounding project corridor. Residents living adjacent to Iowa 28 in the communities of Lakewood, Echo Valley Estates, and Norwalk, and in the neighboring rural areas will be adversely impacted by that noise, to some extent. In an effort to minimize the adverse effects of the construction period, contractors will be required to equip and maintain trucks and machinery so as to limit noise emissions to the extent feasible and prudent. In addition, the noisier activities will be restricted to daytime hours. These provisions will be included in written contract specifications.

Waste materials will be created as a result of clearing, grubbing, and construction operations. These wastes will be used in the project fill, hauled to a suitable landfill, or burned. Such burnings are regulated by state law and must be at least one-quarter mile from any inhabited building, confined to daylight hours, and permitted only when winds are favorable. Burnings can create temporary air pollution. Since this project is near Des Moines, it will be especially necessary to avoid contributing to present and future air pollution problems.

The state's air quality standards require that measures be taken to prevent particulate matter in quantities sufficient to create a nuisance from becoming airborne (Section 657.1, Code of Iowa, 1975). Compliance with Department of Environmental Quality's *Rules and Regulations Regarding Air Pollution Control* (1973), which include limitations placed on the generation of fugitive dust, will be required. Precautions against fugitive dust include application of suitable materials, such as asphalt, oil, water or chemicals to areas giving rise to airborne dust. Dusty materials such as aggregate or fill dirt must be containerized or covered while being transported to prevent localized pollution. Additionally, construction contractors will be required to properly equip and maintain machinery so as to minimize exhaust emissions.

Erosion from construction activities is one impact which cannot be eliminated. Problems which result from erosion, and the severity of them, depend on the weather, the particular situation at each construction site and the precautionary measures taken by the contractor.

Wind and water both cause erosion. Siltation of streams will take place if heavy rains occur during the construction period. In addition, other problems due to erosion may also occur. These impacts, as well as mitigation measures to be implemented, will be identified during final design design.

The contractor will also be required to take steps to minimize erosion. The area of erodible soil exposed by clearing and grubbing operations or grading will be limited so as to localize any potential damage to a controllable size. Temporary pollution control practices will also be instituted during construction. These include the construction of temporary berms, dikes, dams, sediment basins, and slope drains and the use of temporary mulches, mats, seedings or other control devices or methods as necessary to control erosion. Cut slopes will be seeded and mulched as the excavation proceeds to the extent considered desirable and practicable. Temporary pollution control measures will be used to correct conditions during construction that were not foreseen during the design stage; that are needed prior to installation of permanent pollution control features; or that are needed temporarily to control erosion that develops during normal construction practices. Temporary pollution control measures can include work outside the right-of-way where such work is necessary as a result of roadway construction (borrow pit operations, haul roads, and equipment storage sites, etc.).

Contractors are required to incorporate permanent erosion control features into the project as soon as possible. "Under no conditions shall the amount of surface area of erodible earth material exposed at one time by excavation, borrow, or fill within the right-of-way exceed 750,000 square feet, without prior approval by the engineer" (*Iowa DOT Standard Specifications for Construction and Maintenance*). Sodding, mulching, seeding and control of surface drainage are among the permanent measures employed for erosion control.

Various species of plants are planted to control wind and water erosion, as well as to provide wildlife habitat and an attractive right-of-way. Not only are roadside plantings

aesthetically pleasing but they can also have a positive effect on highway safety. They may be properly placed to indicate changes in highway alignment and to provide traffic guidance for danger areas such as bridge abutments, culvert headwalls or other structures near the edge of the pavement. Plantings may reduce headlight glare on frontage roads, act as a barrier to reduce impact when used in median strips, screen unsightly areas and reduce "highway hypnosis." Plantings may also be used to create a "living snow fence," to keep snow from drifting onto the highway during winter storms.

These plantings provide many deep rooted plants which stabilize the soil by their fibrous root systems and protect it from wind erosion and raindrop impact by virtue of their complete vegetative cover. Increasing usage of native prairie species in right-of-way plantings has begun. A large variety of plants is included in this group, and as they are perennials, while most so-called weed species are annuals, the native prairie plants are extremely competitive once they become established. Use of native prairie species also reduces maintenance costs.

It is anticipated that borrow areas will not be required for this project. Rather, excess material from excavation will likely result from cutting and filling operations. The amount will be determined during final design and a suitable fill site identified at that time. It is likely that clay will be a principal component.

Another impact of construction will be the temporary disruption of traffic service. During the construction period, Iowa 28 will be closed to through traffic, north of the South Middle Creek Bridge. South of the bridge the improvement will be stage constructed in order to maintain local traffic service. A marked detour will be designated prior to construction for traffic unfamiliar with the local road system and for larger trucks. However, since present day traffic volumes north of Norwalk are twice as great as those south of Norwalk, it appears that Norwalk and the Lakewood and Echo Valley Estates sub-divisions are the major Iowa 28 traffic generators in the project area. Therefore, those motorists are likely to utilize the local road system, with a minimum of out-of-distance travel and time delays during the period Iowa 28 is actually closed. Those people living north of South Middle Creek will be permitted access to their homes during the construction period, weather permitting.

Relocation and Right-of-Way Impacts

Highway improvements usually require purchase of additional right-of-way, which may result in damage to properties and the displacement of people, businesses and farms. Although exact figures will not be available until final design plans are completed, it is estimated that the Iowa 28 improvement will displace one farm house (approximately four individuals) and severely impact one business, resulting in its probable displacement. It is also anticipated that a substantial number of property owners, adjacent to the Iowa 28 facility, will be impacted by the acquisition of some of their property for right-of-way purposes or by the acquisition of temporary easements during project construction. A determination as to the feasibility of acquiring easements as opposed to acquiring permanent right-of-way, however, cannot be made until accurate survey information is obtained, during final design.

To reduce hardships caused by highway land acquisition, eligible families and businesses will receive compensation through acquisition payments, and relocation assistance.

Acquisition payments are based on the property's fair market value as determined through an appraisal guided by current sales and prices. The payments are made specifically for the home, farm or business buildings, and for property such as land, fences, wells and trees. In cases of partial acquisition, payment is based on a comparison of the fair market value before and after acquisition.

The relocation assistance program supplements acquisition payments in order to assure that those persons who are displaced do not suffer disproportionate economic stress in the process of moving and acquiring replacement housing. Supplemental payments for moving expenses are offered to any individual, family, business, farm operation or non-profit organization that is required to move as a result of the highway project. Supplemental housing payments are offered in the amount necessary, which when added to the acquisition payment, will enable the resident to acquire a decent, safe and sanitary replacement dwelling. If a home is vacant the owner would not qualify for relocation payments, as this program applies to occupants, only.

Both tenants and owners qualify for relocation assistance by meeting minimum residence requirements. Any individual or family who has owned and occupied or rented a dwelling for at least 90 days before the start of negotiations may be eligible to receive payments for residential moving expenses, closing costs incurred in purchasing another dwelling and, possibly, a replacement housing payment. Any individual or family that has owned and occupied their own home for at least 180 days before the start of negotiations may be eligible for additional compensation to offset increased interest payments on a replacement dwelling.

Programmed replacement housing as a "last resort" is provided for under Section 206 of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970. This Act stipulates that if the local agency determines it is in the public interest to proceed with the construction of the Federal-Aid highway project and it cannot do so because of an inadequate supply of decent, safe and sanitary replacement housing within the financial means of the displaced, then it may, as a last resort, provide the necessary housing through the use of funds authorized for the highway project.

The proposed Iowa 28 improvement will not adversely affect a particular neighborhood, group, or segment of the study area population. A field review of the corridor and a review of the 1970 census data indicates that this project will not be in conflict with the provisions of Title VI of the Civil Rights Act of 1964.

Replacement housing currently available in the corridor communities includes an ample supply of moderately priced homes for sale. Recent community profiles of Lakewood and Norwalk estimate there are from 20-30 homes for sale in the corridor; however, there is a

limited supply of rentals available. Since both the residence and the commercial business scheduled for possible displacement by the proposed project are located in rural areas, however, a viable alternative is to relocate those buildings, or construct new buildings, on the same properties.

The "Do Nothing" Alternate would have required no additional right-of-way, nor would it have caused any displacements.

Noise Analysis

A field investigation of the project corridor was conducted. During the investigation a total of 81 sites were identified as being close enough to the roadway to be affected by traffic noise emanating from Iowa 28. Of the 81 identified receptors 76 are homes, three are apartments, one is a church, and one is a nursing home. No commercial establishments or public parks were close enough to the roadway to be impacted by traffic noise.

Seven sites were selected to represent all 81 identified receptors. Selection of the seven sites, one apartment and six homes, was based on several criteria. All seven sites are relatively close to the roadway. Different traffic volumes will be experienced at each site. A random spacing throughout the length of the project is obtained. A distinct homogenous neighborhood may be represented.

Present as well as future (2002) noise levels at the seven sampling sites were measured and predicted. The present ambient noise level was measured using a Metrosonics dB 601 sound level analyzer. This instrument will automatically compute the L_{eq} (equivalent sound level) or L_% on command from the operator. This particular noise analysis utilizes the L₁₀ (decibel level exceeded 10% of the time) level to describe the noise environment. The noise sampling period for each site was 10 minutes in duration. Therefore, if the L₁₀ level for the period was 70dBA, it would mean that for one minute out of the ten, noise levels exceeded 70dBA. The design year (2002) L₁₀ noise level at each site was predicted using the procedure of the NCHRP Reports 117 and 144. This prediction method was also used to determine the generalized 70dBA noise contour distances for the design year. Noise contours can be a useful tool in future land use planning.

The Federal-Aid Highway Program Manual 7-7-3 (FHWA, May, 1976) established L₁₀ design levels which are not to be exceeded at noise sensitive areas affected by highway traffic noise. Seventy-nine of the 81 identified sensitive receptors fall under activity category B. The design standard for this category is an L₁₀ of 70dBA for the exterior of the structure. One receptor, a church in Norwalk, would be placed into category E. Since there are no identifiable outdoor activities associated with this building, interior noise levels would be of greater concern when identifying possible impacts. Category E specifies a maximum interior L₁₀ level of 55dBA. Figure 13 lists the various land use categories and the design noise levels desirable for each.

A summary of the noise study data collected and predicted for each of the sites can be

Common Outdoor Noise Levels	Noise Level dBA	Common Indoor Noise Levels
	-110-	Rock Band
Jet Fly-over at 1000 ft.	-105-	
	-100-	
Gas Lawn Mower at 3 ft.	- 95-	Inside Subway Train (New York)
	- 90-	
Combine at 50 ft. Diesel Tractor or Truck at 50 ft. Snowmobile at 50 ft. Noisy Urban Daytime	- 85-	Food Blender at 3 ft.
	- 80-	Garbage Disposal at 3 ft. Shouting at 3 ft.
	- 75-	
Gas Lawn Mower at 100 ft.	- 70-	Vacuum Cleaner at 10 ft.
Commercial Area	- 65-	Normal Speech at 3 ft.
	- 60-	
	- 55-	Large Business Office
Quiet Urban Daytime	- 50-	Dishwasher next room
	- 45-	
Quiet Urban Nighttime	- 40-	Small Theatre, Large Conference Room (Background)
Quiet Suburban Nighttime	- 35-	
	- 30-	Library
	- 25-	Bedroom at Night Concert Hall (Background)
Quiet Rural Nighttime	- 20-	
	- 15-	Broadcast and Recording Studio
	- 10-	
	- 5-	Threshold of Hearing
	- 0-	

COMMON INDOOR AND OUTDOOR NOISE LEVELS
Adapted from: Bolt Beranek and Newman Inc.,
Fundamentals and Abatement of Highway Traffic Noise, 1973

DESIGN NOISE LEVEL/ACTIVITY RELATIONSHIPS

Activity Category	Design Noise Levels-dBA		Description of Activity Category
	Leq	L10	
A	57 (Exterior)	60 (Exterior)	Tracts of lands in which serenity and quiet are of extraordinary significance and serve an important public need, and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose. Such areas could include amphitheaters, particular parks or portions of parks, or open spaces which are dedicated or recognized by appropriate local officials for activities requiring special qualities of serenity and quiet.
B	67 (Exterior)	70 (Exterior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, picnic areas, recreation areas, playgrounds, active sports areas, and parks.
C	72 (Exterior)	75 (Exterior)	Developed lands, properties or activities not included in categories A and B above.
D	--	--	For requirements on undeveloped lands see paragraphs 11a and c, FHPM 7-7-3.
E	52 (Interior)	55 (Interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals and auditoriums.

found in Table 7. In addition, the location of the sites and the generalized 70dBA contour lines are presented on the aerial photographs included in this statement.

Site 1 is a home located in the City of Norwalk between Elm Avenue and North Avenue, on the east side of Iowa 28. A total of 16 homes are located in this area and are represented by this site. Present as well as predicted design year L10 noise levels are well below the design level of 70dBA. The L10 level will increase approximately three decibels in the twenty year period following completion of construction. Impacts due to noise will be slight.

Site 2 is an apartment house located midway between North Avenue and Main Street, on the west side of Iowa 28 in Norwalk. Three apartments, a nursing home, and one church were identified as being possible noise sensitive receptors in this portion of the project corridor. The present L10 at Site 2 is 62dBA. The predicted 2002 L10 for the "Build" Alternate is 67dBA, and for the "Do-Nothing" Alternate, was 66dBA. Although a five decibel increase may be enough to be noticed by some people, the impact will be small. A determination of the interior noise level in the church was made. Considering the insulating effects of the structure, future noise levels will be well below the 55dBA design noise level for the interior of the building.

Site 3 is a home located at the intersection of Iowa 28 and High Road in Norwalk. This site represents eight homes located adjacent to Iowa 28 between Main Street and High Road. The present L10 is 68dBA. The predicted future L10 for the "Build" Alternate is 72dBA, and for the "Do-Nothing" Alternate, was 71dBA. Even though a three or four decibel increase in noise levels is not very significant, all eight homes may experience noise levels in excess of the design noise level by the year 2002.

Site 4 is a home located at the intersection of Gordon Avenue and Iowa 28, in Norwalk. This home is the only noise sensitive receptor located adjacent to Iowa 28 in an area bounded by High Road on the south and the Norwalk corporate limits on the north. The possibility that future development could occur in this area, which may be noise sensitive, is quite high. Future noise levels at Site 4 are expected to exceed the design level by one or two decibels.

Site 5 is a home located on the east side of Iowa 28, just south of the Echo Valley Estates housing development. There are, at this time, 34 homes located adjacent to Iowa 28 in an area bounded by S.W. 90th Avenue on the south and Lakewood Avenue on the north. This segment of roadway is approximately 2,500 feet in length. It is predicted that by the year 2002 noise levels will increase by about four decibels to an L10 of 73dBA. Of the 34 homes identified, 26 are expected to experience an L10 in excess of 70dBA by the year 2002.

Site 6 is a home located at the intersection of Lakewood Avenue and Iowa 28, in Lakewood. This site represents the 16 homes which are presently located adjacent to Iowa 28 between Lakewood Avenue and the Warren-Polk County line. The predicted year 2002 L10 is 72dBA for the "Build" Alternate and was 71dBA for the "Do-Nothing" Alternate. Fifteen of the sixteen homes will experience future noise levels in excess of 70dBA.

TABLE 7
SUMMARY OF NOISE DATA

Site No.	Number of Receptors Represented	Distance From Centerline of Near Lane	Design Noise Level (dBA)	Existing L10 (dBA)	Predicted L10 2002-"Build"	Predicted L10, 2002-"Do-Nothing"	Number of Receptors Exceeding Applicable Design Level	Generalized 2002 70dBA L10 Contour Distance
1	16	155'	70	61	64	63	0	62'
2	5	110'	70*	62	67	66	0	59'
3	8	70'	70	68	72	71	8	92'
4	1	86'	70	70	73	72	1	135'
5	34	80'	70	69	73	72	26	125'
6	16	90'	70	68	72	71	15	135'
7	1	105'	70	69	73	72	1	154'

*Includes one church with an interior design level of 55dBA. Subtract 20dBA from the noise levels given to estimate interior levels.

Site 7 is a single isolated farm home located on the east side of Iowa 28, approximately one-quarter mile north of the county line. By the year 2002 it is predicted that the L10 at that site will increase from the present 69dBA to 73dBA. A similar situation would also have occurred for the "Do-Nothing" Alternate.

Impacts and Mitigation

A number of factors, in addition to simply stating how many decibels the L10 noise level will increase, must be considered when describing the possible noise impacts Iowa 28 may have on adjacent noise sensitive land uses. First of all, the noise levels included in Table 7 are for a rush hour situation. Iowa 28 is primarily a commuter road. As previously stated, a large percentage of the people living in Norwalk and Lakewood work in the Des Moines area. It is estimated that approximately 12% of the normal average daily traffic occurs between seven and eight in the morning and an additional 10-12% occurs between four-thirty and five-thirty in the afternoon. The hourly volumes at other times of the day are approximately 6-7% of the total daily volume. Hourly volumes at night (after ten p.m.) are from 3-5% of the total daily volume. Therefore, the predicted future noise levels are for the rush hour or "worst case" situations, which occur only two to three hours in a day. Another factor to consider is the nature of the noise emissions. Only 3% of the current traffic on Iowa 28 is comprised of heavy-duty trucks. Truck noise is one of the primary causes of complaints about traffic noise. Peak noise levels emitted by a heavy truck are fifteen or more decibels higher than that which would be expected from an automobile. With trucks comprising a relatively low percentage of the total traffic, the occurrence of high peak noise levels is infrequent. As can be seen, in order to fully analyze highway noise impacts, more factors than an L10 decibel level must be considered.

Because there are certain times of the day in which noise sensitive receptors are predicted to be exposed to exterior noise levels in excess of the design level, the possibility of utilizing some method of noise abatement was investigated. A total of 51 noise sensitive receptors will experience exterior noise levels in excess of the design level by the year 2002. These receptors are represented by sites 3 through 7. The discussion which follows will examine whether the implementation of noise abatement procedures would be feasible and prudent.

The nine homes represented by sites 3 and 4 which are expected to be exposed to noise levels in excess of the design level are located within the City of Norwalk. Access to Iowa 28 throughout Norwalk will continue to be basically uncontrolled and available right-of-way is extremely limited. The existing and proposed right-of-way line is only 80 feet or less from the nine homes. Barriers, berms or walls, are considered to be one of the most effective methods of noise abatement. For a barrier to be effective, two conditions must exist. Sufficient right-of-way must be available, and the barrier should have no openings or breaks. It is evident that within the City of Norwalk barrier construction would be very difficult, at best, and if built, very ineffective. Barriers would also look out of place from an aesthetic standpoint. Other abatement techniques such as rerouting traffic or eliminating truck traffic would not be feasible or effective. Rerouting traffic would simply reroute the noise problem

and eliminating trucks would have little impact because trucks are only a small contributor to the overall noise problem.

A total of 41 homes which are located adjacent to Iowa 28 in the Lakewood and Echo Valley Estates housing areas (Sites 4, 5, and 6) are expected to experience noise levels in excess of the design level by the year 2002. Access to Iowa 28 in these areas is limited. There are only three access points for Lakewood and two for Echo Valley Estates. In addition, right-of-way is not as limited as it is in Norwalk. Also, the affected homes are located much closer together. These three factors, limited access, available right-of-way, and closeness of homes, appear to make the construction of barriers a more feasible and effective method of noise abatement. Preliminary investigation revealed that those homes which are situated between Wakonda Drive and Lakewood Avenue in Lakewood and the homes located across Iowa 28 in Echo Valley Estates would probably be benefited the most by the construction of noise barriers. This is due to the favorable topography in this area, which already provides some natural shielding. Because this project is in an early stage of development, no specific recommendations will be made at this time concerning the construction of barriers. What the final course of action will be will primarily depend upon public response and comments expressed by affected residents relative to the use of barriers, as well as the final design layout. A design phase noise study, in which recommendations will be made, will be completed after the design plans are drawn up and before the design public hearing is held.

Site 7 is the only other sensitive receiver along Iowa 28 which will be subjected to noise levels in excess of the design level. Providing an effective method of abatement for a single isolated receiver is feasible, but difficult and expensive. To reduce noise levels by at least 10 decibels at this site would require the construction of a barrier approximately twelve to fifteen feet in height and 200 to 300 feet in length. A barrier of this size would cost from \$20,000 to \$30,000. Considering that the predicted future noise level will only increase approximately 4 decibels, this level of expenditure for a single home is not very cost effective. It is recommended that the present heavy vegetation surrounding this site be retained to the extent possible in order to provide a screening effect. Although vegetation is not very effective in reducing noise levels, it does provide certain psychological benefits.

As was previously pointed out in the Section IV, Land Use, the project corridor passes through an area expected to undergo considerable future development and growth. An important aspect of this growth is the consideration of traffic noise when construction is planned near the roadway. Proper planning can reduce the number of people who will be exposed to excessive highway noise in the future. The generalized 70dBA contour distances listed in Table 7 and shown on the project aerials can be useful to the planner as a guide to insure that, in the future, only non-noise sensitive land uses locate directly adjacent to the highway. A copy of the publication *The Audible Landscape: A Manual For Highway Noise and Land Use* (FHWA, 1974) will be furnished to local, city and county officials as well as the regional planning agencies. This publication will aid in providing information to assure that future land use in the corridor is compatible with the anticipated Iowa 28 traffic noise environment.

Conclusion and Summary

Noise sensitive land uses in both urban and rural areas have been identified in the Iowa 28 project corridor. Seven specific noise sensitive receptors, which are representative of all sensitive receivers, were selected for the purpose of noise measurement. The anticipated impacts of the project on noise sensitive land uses has been quantified by comparing predicted future noise levels with existing levels, and also to the applicable design standards. It was predicted that throughout the entire corridor, by the year 2002, L10 noise levels will increase from three to five decibels over present levels. This increase is due primarily to the predicted large increase in traffic volumes and, to a smaller degree, from the effects of widening the highway, thereby placing traffic lanes somewhat closer to the noise sensitive receptors. There is virtually no difference between the "Build" and the "Do-Nothing" Alternates as far as future noise impacts are concerned. Although the predicted increase in the L10 noise level is not large enough to have a significant impact, 51 noise sensitive receivers will experience noise levels in excess of design levels by the year 2002. Because of this, the possibility of incorporating noise abatement procedures into the project concept was investigated. For those noise sensitive receptors located within the City of Norwalk there is no effective or prudent method of noise abatement available. Unlimited access to the roadway and very limited right-of-way are the primary factors which would prevent the effective application of noise abatement techniques. For those noise sensitive receptors located in Lakewood and Echo Valley Estates, the incorporation of some type of noise barrier into the project concept may be feasible and effective. Because it is still early in the project location phase, however, specific recommendations will not be made at this time. The use of barriers will continue to be studied as the project is developed. A vital factor to be considered will be public response to the barrier concept.

Air Quality

The purpose of the Iowa 28 improvement project is to enhance vehicle flow and safety of operation for the increasing traffic volumes which utilize the facility. As the capacity of the highway is increased, the operating efficiency of each vehicle is improved by affording a more constant operating speed. Lower per vehicle emissions would be expected under these conditions. Additionally, the federal motor vehicle emission control schedule is expected to exert a positive effect on overall air quality as a higher percentage of the motor vehicle population becomes equipped with pollution control devices. Thus, the nature of the Iowa 28 improvement will be expected to have a beneficial impact on air quality as compared to the perpetuation of existing roadway conditions, while traffic volumes continue to grow.

Iowa's Department of Environmental Quality (DEQ) has developed a screening process for identifying the air pollution potential of highway projects based on location, design and operating speed. The state's existing air quality and favorable meteorology are also considerations on which the screening procedure is based. If predicted critical year (year of highest pollution potential) traffic volumes exceed certain cutoff volumes, a detailed analysis must be prepared for review by DEQ. If the critical year volumes are predicted to be below the established cutoff volumes, the project's air quality impact would be expected

to be very minor, and no further analysis is necessary. The table which follows compares the estimated peak one hour and eight hour traffic volumes on Iowa 28 for the approximate year of project completion, 1982, to the specified cutoff volumes. The figures in the table indicate that the pollution potential of Iowa 28 traffic is expected to be low, and consistency with Iowa's State Implementation Plan (SIP) for maintenance of the National Ambient Air Quality Standards is implied.

TABLE 8

APPLICATION OF DEQ AIR QUALITY GUIDELINES

Operating Speed	DEQ Cutoff Volumes*		Peak Iowa 28 Volumes (1982)	
	1-hour	8-hour	1-hour	8-hour
45 mph	4740	27,600	2620	16,800

*Table III, *Guidelines of the Department of Environmental Quality for Review of Federally-Funded Highway Projects, 1974.*

To further quantify the air quality impact of the highway improvement, an abbreviated analysis was performed according to the procedure described in the *Simplified Analysis Technique for Estimating Carbon Monoxide Concentrations Near Highway Facilities* (Federal Highway Administration, 1976). Carbon monoxide is the accepted indicator of highway related air pollution since its major technological source is the internal combustion engine and it is inert to photochemical reactions, thus lending itself to contemporary prediction modeling. Table 9 provides the estimated CO concentrations in the area of the Lakewood Drive intersection in Lakewood, when worst case meteorological conditions coincide with yearly peak traffic volumes. This data depicts the trend in highway related air pollution within the study corridor, and supports the contention that the proposed highway improvement will not significantly affect local air quality.

TABLE 9

ESTIMATED PEAK 8-HOUR CO CONCENTRATIONS

Existing Iowa 28 (70' from roadway) 1977	Improved Iowa 28 (50' from roadway)	
	1982	2002
4ppm	3ppm	2ppm

Water Quality Impacts

The proposed project crosses South Middle Creek in Section 6, T77N-R24W. The creek drains a 10.9 square mile area. A few hundred feet upstream the creek has been dammed to form Lake Colechester; downstream the stream channel has been diverted to provide

irrigation water for the Echo Valley Golf and Country Club course. Below this, the water is utilized for two sewage lagoons. Flow for South Middle Creek depends on outflow from Lake Colechester.

The proposed project will replace the existing 24-foot x 120-foot steel beam/girder bridge. The roadway grade and approaches in the vicinity of the creek will be raised above that of the existing grade. Excavation during construction is not anticipated to intersect the water table along Iowa 28.

The proposed action will impact South Middle Creek and downstream water users to some extent. Temporary erosion resulting in siltation and loss of aquatic life are expected due to construction activities. No fisheries are likely to exist in this stretch of the stream; however, aquatic biota lower in the food chain will be impacted, at least temporarily.

Another potential impact to water quality concerns de-icing salts used to ensure safe driving conditions during winter weather. The Lakewood residential development obtains its water from a well located adjacent to Iowa 28. According to officials from the Home Owners organization at Lakewood, the source of water is the Jordan aquifer. The well is located at Station 562 and is 80 feet from the edge of the proposed four-lane pavement. The entire water facility is contained in a residential-type building. Due to the depth of this aquifer and the distance of the facility from the roadway, it is not anticipated that it will be affected by the runoff from de-icing salts.

Runoff from de-icing activities potentially could affect downstream users, such as the Echo Valley Golf and Country Club and the sewage lagoon facilities.

Water quality impacts potentially could occur at a second location at the north end of the project. Drainage from Army Post Road (Iowa 5) is north into the Raccoon River basin. Many people use the shallow aquifer along the Raccoon River for drinking purposes.⁽⁹⁾ Recent reports indicate that runoff from large surfaces treated with de-icing compounds (such as in municipalities) are being found much further downstream than in the past.⁽⁹⁾ The Army Post Road - Iowa 28 intersection, however, is located approximately two and one-half miles south of the Raccoon River and due to the small portion of the highway project which lies within the watershed, as well as its distance from the alluvial aquifer, salting on Iowa 5 is not anticipated to pose a problem or contaminate the drinking water supply.

Salting and Efforts to Mitigate Effects on the Environment

In October, 1975, the Iowa Department of Transportation, through its Office of Maintenance, revised the previous "bare pavement" policy as the standard for wintertime road safety. A more conservative salt program has been implemented which essentially changes the "bare pavement" policy to a "near normal" one on Iowa's primary roads. As a result, the net amount of salt used in a given year on Iowa's roads will vary according to the severity of the winter weather.

The new policy outlines different procedures for Priority 1 and Priority 2 highways. Priority 1 highways include Interstates, major-arterials, arterial highways and commuter routes. Maintenance for these highways provides snow removal and a near-normal road condition within 10 hours after a storm ends. A 50-50 sand-salt mixture is utilized for snow and ice control. Priority 2 highways are arterial connectors, including stub routes. On Priority 2 highways, the inside wheel track surface is made bare enough to provide traction within 24 hours after a storm ends. During the course of a storm, sand only is utilized for hazardous locations including hills, curves, bridges, stop signs, and railroad crossings.

During the period of years when the "bare pavement" policy was in effect, the use of surface deicers as a major means of implementing that policy had become widespread. Sodium chloride and calcium chloride are the most effective and most economical salts used for highway deicing. The area of greatest concern as a result is the potential effect that these salts may have on the biotic community and hydrologic system. On the hydrologic system the effects can be cumulative and then in some cases may be irreversible. The biotic community is extremely susceptible, as a concentration of salt entering a small body of water can produce density stratifications that prevent normal seasonal mixing, thus causing an oxygen depletion in those layers supporting bottom-dwelling flora and fauna.

It is not possible to know the existing salt concentrations in the soil and ground water adjacent to the proposed project without sampling and testing. Salt can injure roadside vegetation, but it does not appear to cause widespread damage to grasses. Trees most sensitive to increased saline concentrations are white pine, hemlock, sugar maple, red maple, balsam fir, basswood, and elm. Although most of these species are not found in the project corridor, the list demonstrates the diversity of trees vulnerable to the effects of excessive salinity in soil. Certain plant families and plant species are also more tolerant to salt. Selective planting of these in the highway right-of-way can reduce salt damage.

The current maintenance policies of the Highway Division of the Iowa Department of Transportation incorporate practices to guard against the adverse effects of deicing salts. Pre-wetting of salt and improved salt spreaders and calibration methods insure that only the amount needed to do the job will be applied. Iowa has been the leader in the development of both pre-wetting techniques and calibration of salt spreaders and presently a complex ground-oriented, calibrated spreader is used to assure efficient and economical application.

If use of de-icing salts are found to pose a problem in the two "sensitive areas" in this project corridor it may be desirable to use sand in place of salt to ensure safe winter driving conditions.

Stream Modification and Flood Hazard

No channel modifications of South Middle Creek are anticipated on this project. An 84-foot x 120-foot concrete slab bridge is proposed to span the creek. However, the final bridge design will be determined during the final design stage of project development. The bridge design will meet specifications for the flow of South Middle Creek.

South Middle Creek has been dammed a few hundred feet upstream from Iowa 28 to form Lake Colechester. A few hundred feet downstream are located the double sewage lagoons of Echo Valley Estates and Lakewood, which are owned by Iowa Metro Sewer, Inc. South Middle Creek would not normally pose a flood hazard, either upstream or downstream from Iowa 28.

404 Permit Processing

No 404 processing will be required for this project. This is due to the size of the stream and the fact that less than 200 cubic yards of fill will be placed in the streambed. Meeting these requirements will qualify it for the nationwide general permit, legislated in July 1977.

Effect on Energy Resources

Highway vehicles in this country currently consume in excess of 100 billion gallons of motor fuel a year, or approximately 880 gallons per vehicle. The total amount of fuel consumed is expected to increase in the future, based on current technology and present life styles. The amount of fuel consumed per vehicle is expected to remain fairly steady during the next ten-year period. The amount is then expected to decrease once the higher mileage vehicles become a greater proportion of the total vehicles. By 1990, motor vehicles are expected to consume 175 billion gallons per year.

An area of major importance in achieving better gas mileage is the improvement of a highway facility. Seven physical features of road design affect motor vehicle operating costs: profile, alignment, surface, intersections-at-grade, access-exit points, road and shoulder widths, and length. Any one of these features can affect the free flow of traffic. Free flowing traffic maintaining a constant speed is an important factor in improving gas mileage.

Although travel will be generated by making the movement of people, goods, and services in the Iowa 28 project area more convenient, the proposed improvement will aid in reducing congestion and will improve safety, as the area continues to develop. In order to present a better understanding of the effect of road design on fuel consumption, an analysis of the entire Iowa 28 project corridor was undertaken, comparing the "Do-Nothing" Alternate with the "Build" Alternate for the year 2002. A Computer model has been designed which, by using the various parameters described in the previous paragraph, will compute a gallon-per-day consumption rate. These rates were determined for four classes of vehicles: passenger cars, pickup trucks, tractor/semi-trailer trucks, and light duty trucks and busses. The following table shows the calculated fuel consumption rates for the Iowa 28 project corridor.

TABLE 10

IOWA 28 - FUEL CONSUMPTION

2002 "Do-Nothing" (No Signalization at Lakewood)	5475 gallons/day
2002 "Do-Nothing" (2 Signals at Lakewood)	5815 gallons/day
2002 "Build" (No Signalization at Lakewood)	4227 gallons/day
2002 "Build" (1 Signal at Lakewood)	4567 gallons/day
2002 "Build" (2 Signals at Lakewood)	4907 gallons/day

Overall, the "Do-Nothing" Alternate was clearly the more inefficient of the two alternates. Traffic levels would have been quite high and flow would have been restricted because only two lanes were available for traffic. Reducing the amount of fuel burned also means that the overall level of pollutant emissions will be reduced.

SECTION VI. ALTERNATIVES

Alternates Considered

Two alternatives were considered for this 3.9 mile project. One alternate considered the development of a four-lane divided section in the present Iowa 28 corridor while the other consideration was the "Do-Nothing" Alternative. Three different four-lane concept proposals were initially considered in the corridor area, a four-lane undivided section, a divided section with a 16-foot raised median, and a divided section with a 64-foot depressed median.

The primary reason for eliminating the four-lane undivided section from a further full-scale analysis was safety. Because of the extremely high traffic volumes and the speed of that traffic it was felt that the undivided section would not afford the desired degree of safety. Due to the future development potential within the corridor area it was also felt that an initial highway design should be proposed that would be the safest and the most efficient for handling the high projected future traffic volumes. It was further recognized that because of the somewhat limited development within the present corridor area, it would be more economical to acquire the right-of-way necessary for a divided facility at this time, rather than waiting until some future time, when right-of-way costs might be much greater, due to adjacent commercial and/or residential development.

Further consideration of the divided section with the 64-foot depressed median was eliminated because of the considerable amount of right-of-way that would have been required. Property damage in the adjacent Lakewood and Echo Valley Estates residential areas would have been considerable and additional displacements assured. Right-of-way purchases and damage and displacement payments would have made that improvement extremely costly.

The Draft Negative Declaration was, therefore, based on the concept of a four-lane divided highway facility with a 16-foot median because, while in addition to providing a safe and efficient facility capable of handling future traffic needs, it would also require only moderate right-of-way takings (approximately 24 acres). The proposal was to raise the 16-foot median north of Main Street in Norwalk, while utilizing a painted median south of that point. Due to opposition raised at the March 28, 1978, Corridor Public Hearing, however, concerning the median, as proposed, some modifications have been incorporated into a revised median design. On May 30, 1978, the Iowa Transportation Commission approved the Iowa 28 project concept, as revised, after reviewing the transcript of the public hearing.

The approved median concept, presented in this Final Negative Declaration, proposes that the raised median begin at High Road in Norwalk, instead of Main Street, and continue northerly to Iowa 5. The median will be painted south of High Road, allowing for more convenient access to businesses and residences in that area. The design of the median north of High Road will be altered somewhat to provide for an eight-foot raised median with four-foot inside shoulders on either side, in place of the 16-foot raised median. This will

reduce the total roadway width by about four feet and will provide a greater margin of safety by increasing the clearance distance between the traveled roadway and the raised curb section.

Figure 14 shows the location of the proposed improvement and figuratively illustrates the proposed construction. In addition, aerial photographs of the proposed project are included in this section.

The proposed four-lane improvement will begin near Elm Street in Norwalk, at Station 431, and continue northerly, tapering from the existing 24 feet at that point to a 64-foot width, with a 16-foot median, at North Avenue (Station 444±). The rural-type section (no curbs) will utilize the existing grade line and will be widened symmetrically. The tapered median will be painted through that area.

Between North Avenue and High Road (Station 475+50±) a 65-foot urban curbed section, with a 16-foot painted median, will be built, again widening symmetrically. Storm sewers will be incorporated into the design through that area.

Between High Road and Station 538±, just south of Wakonda Drive in Lakewood, it is proposed to construct a 64-foot rural-type section, with an eight-foot raised median and four-foot inside shoulders. The existing grade line will again be utilized and the present pavement widened symmetrically.

A 300-foot section of pavement between Station 538± and Wakonda Drive (Station 541±) will be reconstructed to improve vertical geometrics. A 64-foot rural section, with the eight-foot raised median and four-foot inside shoulders will again be built.

A 65-foot urban curbed section is proposed between Wakonda Drive and Columbine Drive (Station 563±) in the Lakewood-Echo Valley Estates residential area. The proposal calls for complete reconstruction in that area. Storm sewers will again be incorporated into the project design.

The possibility exists that, in the future, signalization will be required at the Lakewood Avenue and/or Wakonda Drive intersections. Future traffic conditions at those intersections will be monitored for that need.

Between Columbine Drive and Station 33±, in Polk County, complete reconstruction, to improve vertical geometrics, is again proposed. A 64-foot rural section with an eight-foot raised median and four-foot inside shoulders will be built. The existing 24' x 50' steel beam/girder bridge over South Middle Creek will be replaced by a new 84' x 120' concrete slab structure.

Between Station 33± and Iowa 5, the end of the proposed project (Station 52+45) it is proposed to widen symmetrically and to provide a 64-foot rural pavement section.

LOCATION OF PROJECT AND PROPOSED CONSTRUCTION

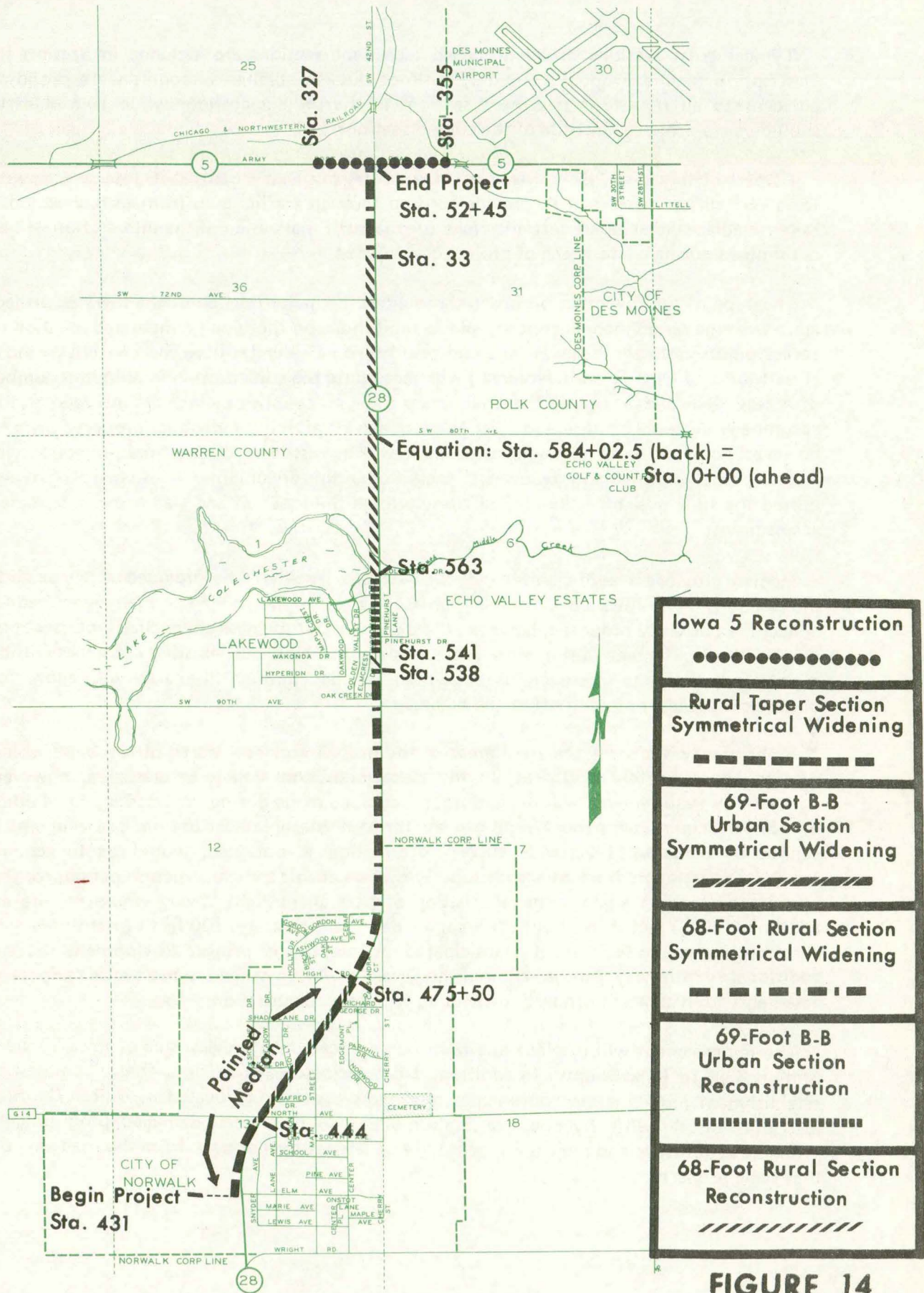


FIGURE 14

Typical cross sections of all proposed pavement sections are included in Section II., Description of the Proposed Action. Ten-foot outside stabilized shoulders are proposed adjacent to all rural-type pavement sections in the project corridor while 10-foot earth shoulders are proposed outside of the curbed sections.

As part of the Iowa 28 improvement, Iowa 5 (Army Post Road), at its intersection with Iowa 28, will be redesigned to provide for two through traffic lanes from each direction, a raised median and separate left and right turn lanes. Final design of the intersection will be determined during a later stage of project development.

The type of improvement proposed throughout the major portion of the Iowa 28 project area, with the raised median concept, places limitations on the type, number and location of access points onto the highway, the end result being a safer facility. The concept in those areas (north of High Road in Norwalk) will necessitate the construction of a limited number of access roads and/or drives, the preliminary design locations of which are included on the accompanying aerial photographs. Per the requests of affected individual property owners, however, some of these access road locations will be restudied during final project design. Access points and median crossovers as presented in this document will also be re-examined during the final design of the project to determine the location and size of predetermined access points.

Median crossovers and separate left-turn storage lanes will be provided at all existing intersections along Iowa 28, north of High Road in Norwalk. In light of the revised median concept as currently proposed, however, the design layout of these channelized intersections will be studied further during final project design. In Norwalk, existing entrances will be maintained, and the presence of a painted median through the area will allow for unrestricted access onto and off of the highway.

Right-of-way width in the rural areas of the project corridor, north of Norwalk, would average approximately 160 feet. In the Lakewood-Echo Valley Estates area, however, right-of-way requirements will depend upon decisions made during final design, on whether or not to acquire permanent right-of-way through the area. An option, but one which cannot be made until accurate survey information is obtained, would be to acquire temporary easements from adjacent property owners during the construction period, for the purpose of shaping slopes. The acquisition of permanent right-of-way would require an additional 30-50 feet throughout the area, divided symmetrically; 100 feet of right-of-way is currently owned. In Norwalk it is anticipated, at this stage of project development, that no additional right-of-way will be required; however, it will be necessary to acquire temporary easements from adjacent property owners, to facilitate construction.

The improvement will displace one farm home, located on the east side of Iowa 28, near Station 33+, in Polk County. In addition, it is anticipated at this time, that a commercial establishment (combination convenience food store-gas station) located in Warren County, just south of S.W. 90th Avenue, near Station 528+, will be severely damaged, prompting its probable acquisition and relocation, possibly to a site set farther back from the roadway, on that same property.

Traffic in the Iowa 28 project area will be detoured during construction, as the facility will be closed in the area of reconstruction, north of the South Middle Creek bridge. A marked detour on paved roads will be designated in the project area as an alternate route for through traffic unfamiliar with the local road system and for larger trucks. Local traffic service on the route between Norwalk and the Lakewood and Echo Valley Estates communities, will, however, be maintained through the use of stage construction. Local traffic familiar with the project area will undoubtedly find their own detour, on the local road system. In inclement weather, however, all traffic would be advised to utilize the marked detour. Access for residents living along the closed section of the highway will be provided, weather permitting. Traffic on Iowa 5 will be maintained during the reconstruction of that intersection.

The estimated construction costs for the proposed improvement of Iowa 28 and for the redesign of the Iowa 5 - Iowa 28 intersection are shown in Table 11.

TABLE 11

ESTIMATED CONSTRUCTION COSTS

Grade and Drain	\$ 410,000
Paving	2,151,000
Structures	300,000
Right-of-Way	500,000
Misc. & Contingency	429,000
TOTAL	\$3,790,000*

*It should be noted that the design details presented in this statement, and upon which these costs are based, are preliminary, only, and may be modified during the final design stage of project development.

The "Do-Nothing" Alternate was also considered for this project. However, it would not have provided a facility capable of improving the capacity and safety considerations desired in the Iowa 28 corridor. Refer to Section I., Need For The Project, for a discussion of existing conditions.

With the selection of the "Do-Nothing" alternative the traffic carrying capacity would have been limited to the present status of Iowa 28, while traffic service demands would have continued to increase along with the projected population growth within the corridor. The resulting congestion would have created air and noise pollution problems comparable to those that will be encountered by the "Build" Alternate. The highway would also have continued to be a potentially high accident facility and the necessary maintenance would have continued to require increasing expenditures without alleviating the congestion that now exists.

It should be recognized that there are some beneficial effects of not building a new facility. For instance, resources are not altered or irreversibly committed and the additional visual impact of an improved facility in the corridor is avoided. The "Do-Nothing" Alternate also avoids the diversion of agricultural land and residential property to transportation use and avoids possible dislocations. Impacts upon other elements of the environment due to adverse effects of air, noise and water pollution also are not introduced through highway development, although future growth in areas adjacent to the roadway could precipitate similar changes in the environment.

The current five year *Iowa Transportation Improvement Program* has right-of-way purchase programmed for fiscal 1982 with the grade and drain portions of the improvement programmed for fiscal 1983. The remainder of the project is listed as a programmed improvement beyond 1983.

As a result of requests received from interested area residents, as well as the Mayor of Norwalk, the Norwalk Superintendent of Schools, and the Lakewood P.T.A., during and following the Iowa 28 Corridor Public Hearing, the Iowa Department of Transportation is actively studying proposals for the possible construction of a bicycle path between Norwalk and the Lakewood-Echo Valley Estates area.

Federal guidelines for the development of such bikeway facilities are being adhered to in this study. They state that federal-aid highway funds are available to construct bicycle and pedestrian facilities where it can be shown that the facility will have sufficient use in relation to cost to justify its construction and maintenance.

To aid in obtaining this needed information, a bikeway survey questionnaire has been developed and distributed to residents of the study area in an effort to determine local interest and support for the proposed bikeway, as well as potential user volumes and bike traffic generators in the corridor area. The results will be analyzed and used to evaluate the functional value of a bikeway in the project area and whether a separate facility is warranted.










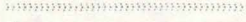


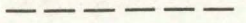


Such a facility, if constructed, would be a separate Class I bikeway within the existing highway corridor, but separated from the traveled roadway. It would be built concurrently with the Iowa 28 reconstruction, to near the north corporate limits of Norwalk. Initial studies indicate that the bike path could be constructed without acquiring additional right-of-way, other than what is needed for the highway improvement, itself. The City of Norwalk has agreed, should the Department of Transportation construct the rural portion of the bikepath, to designate two of their local city streets, between the North Corporation Line and the Norwalk Community High School sports complex, as a Class II bikeway, and install the needed signs identifying such designation. A letter to this effect, from the Mayor of Norwalk, is included in Section XI., Comments and Coordination, Part A.

AERIAL

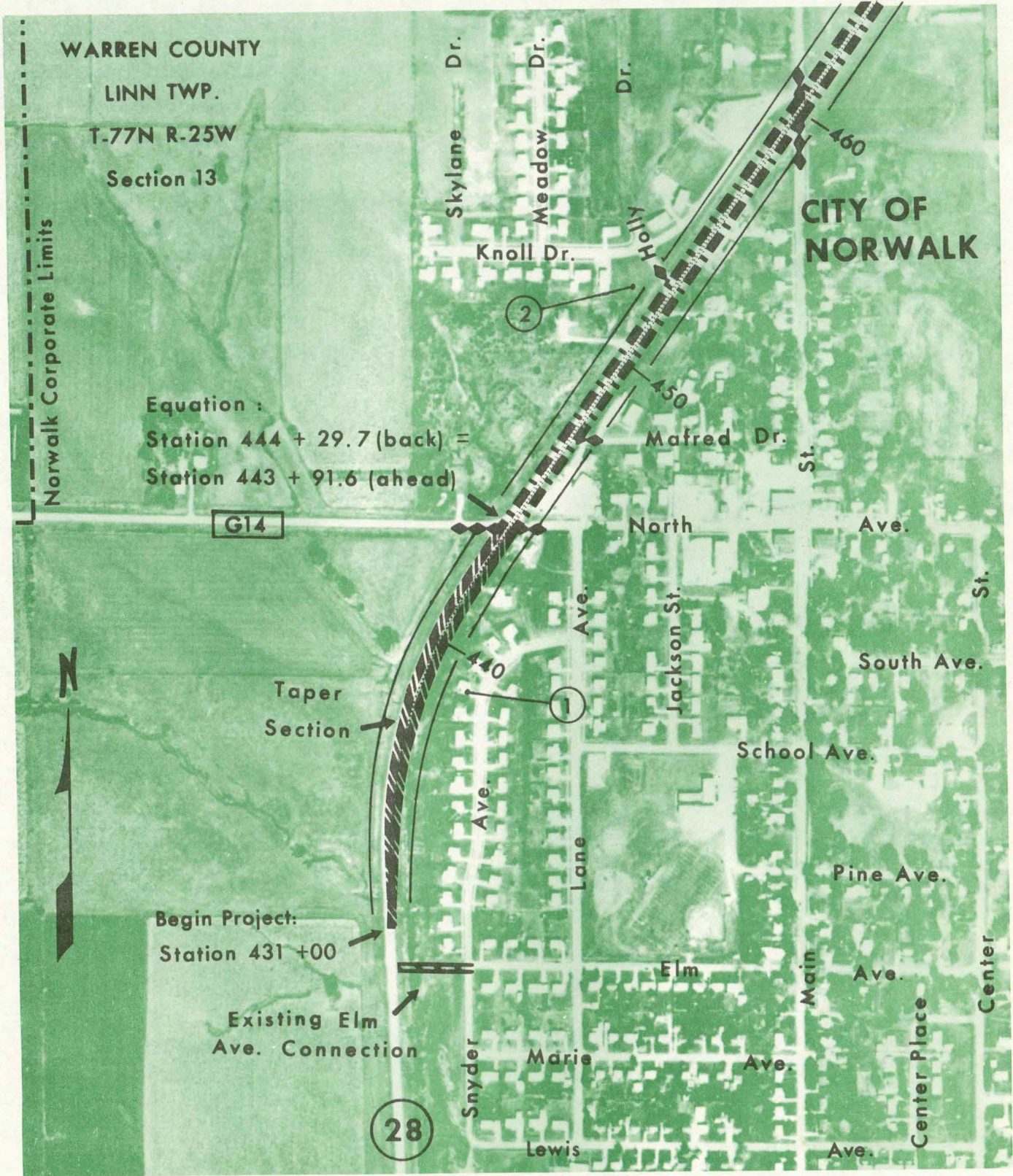
PHOTOGRAPHS OF

PROJECT AREA

LEGEND

	Proposed Rural Taper Section
	Proposed 69-foot Urban Section - Symmetrical Widening
	Proposed 68-foot Rural Section - Symmetrical Widening
	Proposed 69-foot Urban Section - Reconstruction
	Proposed 68-foot Rural Section - Reconstruction
	Proposed Iowa 5 Reconstruction
	Proposed Paved Sideroad and Sidestreet Connections
	Proposed Gravel Sideroad Connections, Access Roads and Rural Private Entrances
	Proposed 8-foot Raised Median and 4-foot Inside Shoulders
	Proposed Painted Median
	Corporation Lines
	County Line
	Section Lines
	Generalized 70dBA L10 Contour Line
	Noise Sites

Note: Private reconstructed entrances in Norwalk have not been shown on the aerial photographs

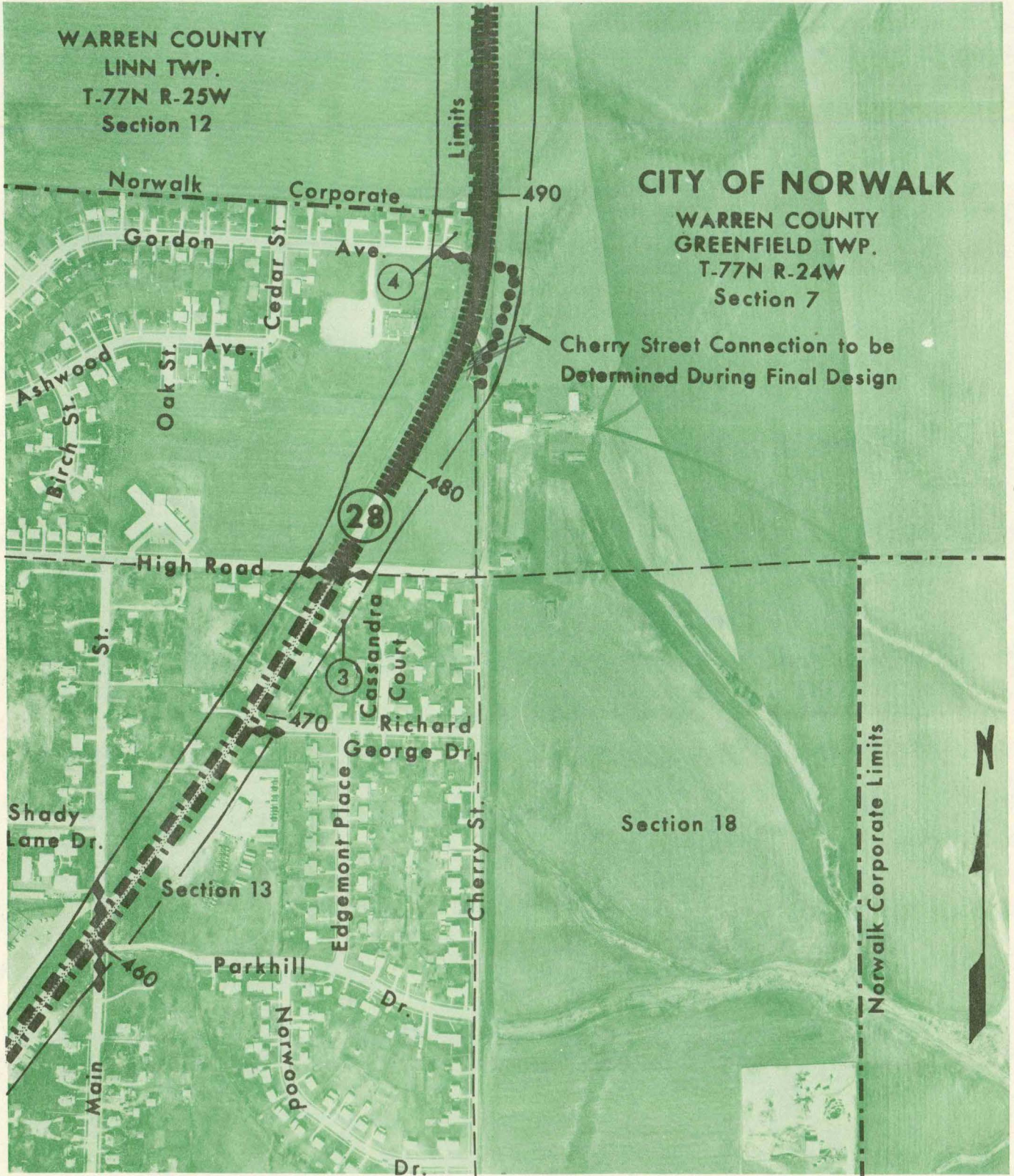


SCALE: 1 INCH = 500 FEET	PLATE 1
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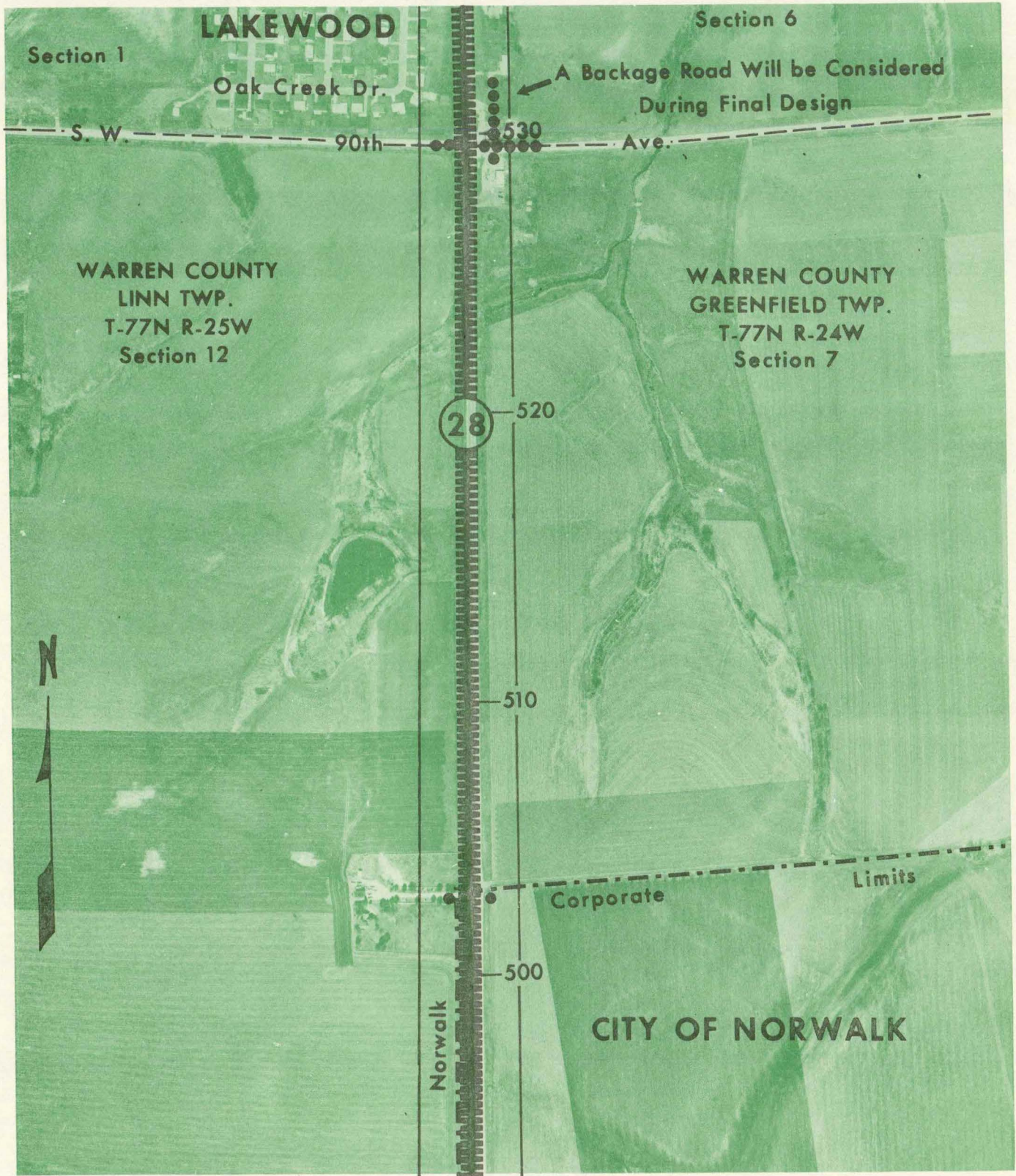
WARREN COUNTY
LINN TWP.
T-77N R-25W
Section 12

CITY OF NORWALK

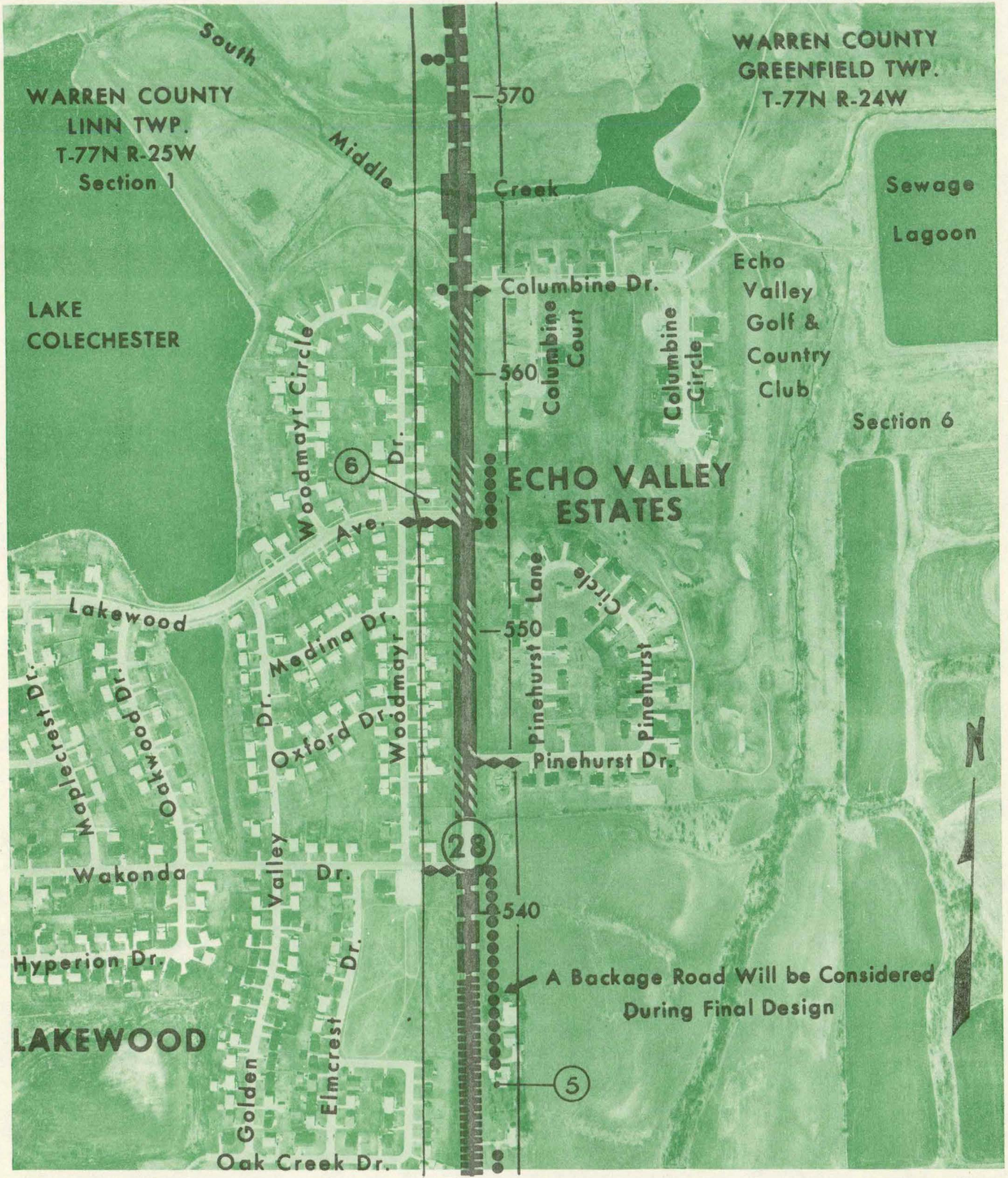
WARREN COUNTY
GREENFIELD TWP.
T-77N R-24W
Section 7



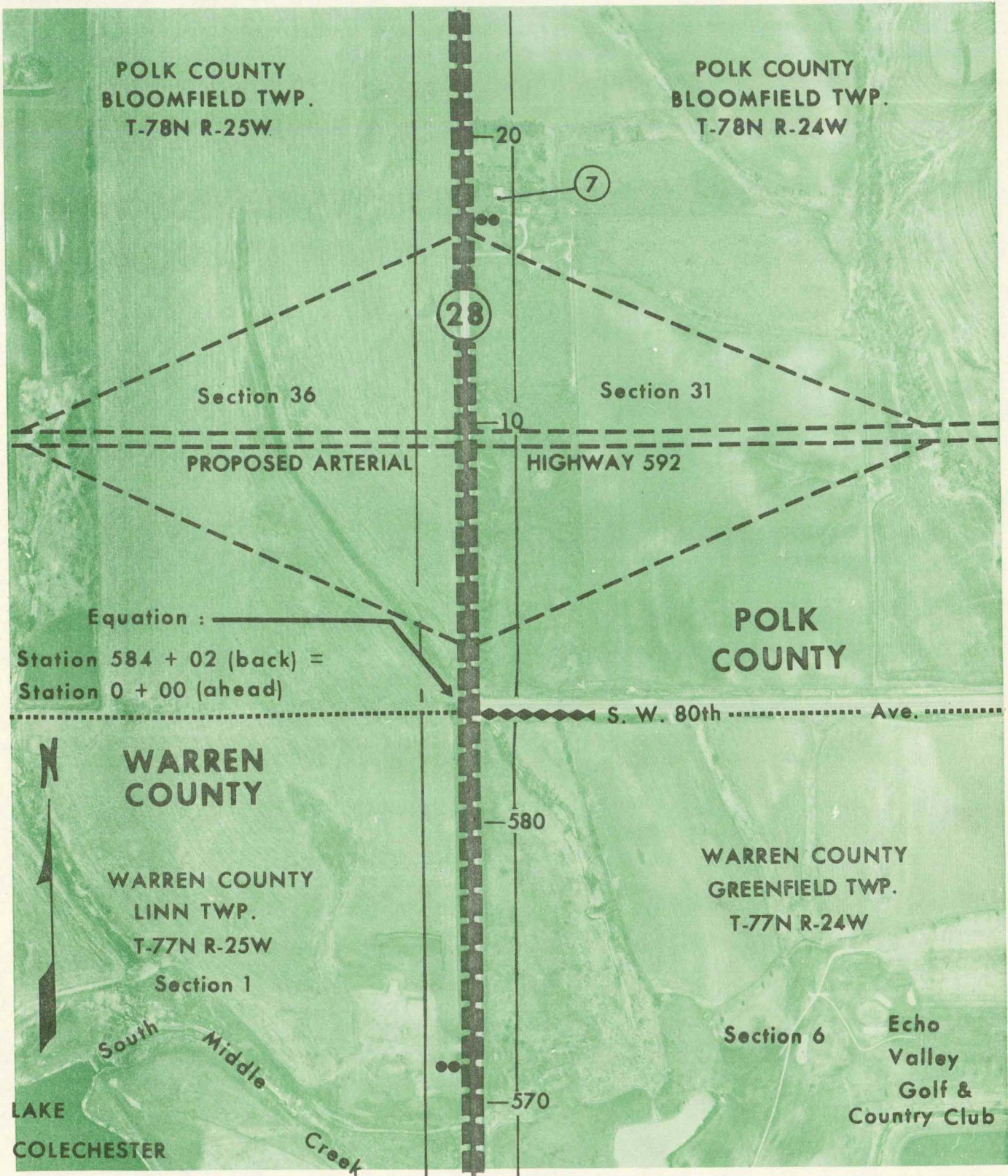
SCALE: 1 INCH = 500 FEET PLATE 2



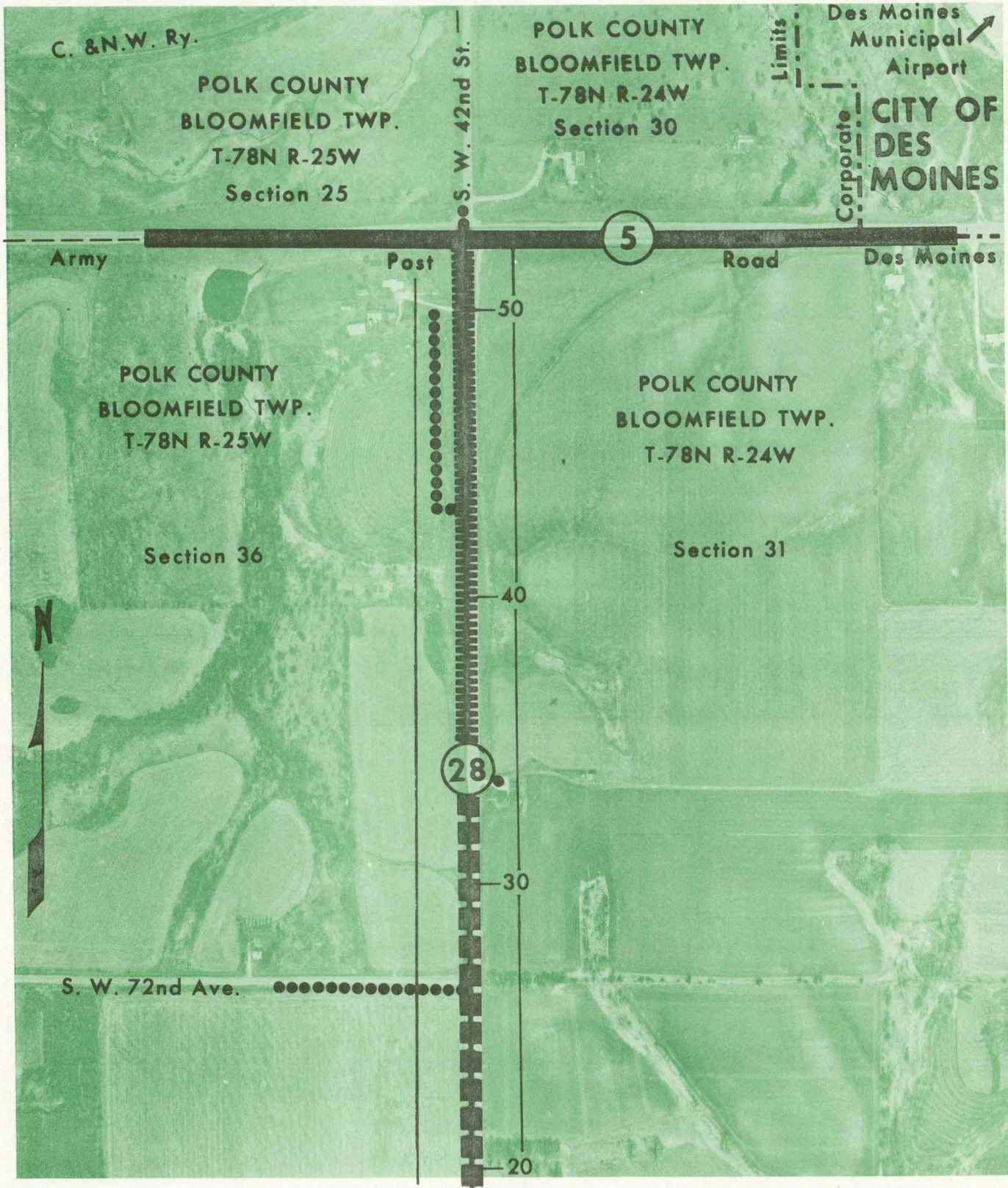
SCALE: 1 INCH = 500 FEET	PLATE 3
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SCALE: 1 INCH = 500 FEET	PLATE 4
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SCALE: 1 INCH = 500 FEET	PLATE 5
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SCALE: 1 INCH = 500 FEET	PLATE 6
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**SECTION VII.
PROBABLE ADVERSE ENVIRONMENTAL EFFECTS
WHICH CANNOT BE AVOIDED**

The construction of a four-lane facility in the Iowa 28 corridor will cause some adverse environmental effects which cannot be avoided. The improvement will cause the probable displacement of one home and one business establishment and will require up to approximately 24 acres of additional right-of-way, possibly affecting a substantial number of adjacent property owners. The additional land required will consist mainly of agricultural farmland; however, small parcels of residential property, from lawns and/or back yards, may be required in the Lakewood and Echo Valley Estates housing developments, depending upon decisions made in final design on whether to acquire permanent right-of-way through that area or to acquire temporary easements during the construction period. Prime farmland accounts for approximately 31% of the total required right-of-way takings.

Although disruption during the construction period is considered temporary, the effects of construction will have an adverse impact on the surrounding area. Soil erosion during the construction period is unavoidable. This problem becomes the most critical during rainy periods, at which time soil is carried by rainwater into streams, causing excessive sediment loads. South Middle Creek will be so affected during the construction period. Other unavoidable impacts include the disruptiveness of dust and noise caused by construction equipment. Because a portion of Iowa 28 will be closed during the construction period, providing a detour will cause some out-of-distance travel and delay to the road user.

The building of roadways entails construction operations using materials and equipment which interfere with the comfort, safety, convenience and activities of area residents. Noise and vibrations as well as higher air pollutant levels are imposed on the people who live and work in the construction area in exchange for the safer road that will benefit a much greater portion of the public.

Due to the transitory nature of construction work, however, the disturbances should be temporary. Furthermore, efforts will be undertaken to ensure that inconveniences and disturbances are kept to a minimum.

The Iowa 28 corridor will experience somewhat higher noise levels in the future. Although the Federal Highway Administration's design noise levels will be exceeded at most sites adjacent to the roadway, the total increase in noise will average only 3-4 decibels, constituting a minor impact. The "Do-Nothing" Alternate would not have greatly benefitted the noise environment, since traffic volumes and truck percentages were expected to remain similar under either condition.

A further construction impact will be the disturbance of some wildlife habitat. This area, however, presently serves as a transportation corridor; therefore, impacts to such habitat from the proposed project should be minimal. The greatest impacts will be to habitat located within the existing roadside ditches and in overgrown fence rows. Additionally, the improvement will require the removal of a small grove of medium-sized sycamore trees, located within the proposed right-of-way.

SECTION VIII.
THE RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES
OF THE ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT
OF LONG-TERM PRODUCTIVITY

The primary objective of planned development is to ensure that short-term uses of the environment do not conflict with long-term productivity. Due to the large and often irreversible commitment of resources in highway projects, this relationship must be carefully evaluated during the planning process. Initially, the environment of the corridor will be disturbed by the short-term effects of construction. These will include the noise, dust and exhaust emissions from the operation of heavy equipment, an increased potential for soil erosion from denuded ground surfaces, and the temporary disruption of local traffic patterns.

The most significant long-term impact is usually the alteration of the existing landscape necessary for the construction of a highway. The terrain within the project corridor will require reshaping to obtain a smooth grade line for the facility and to provide for the two new lanes. Additional right-of-way requirements necessitated by the proposed improvement will, however, result in only a small amount of cropland and pastureland being removed from production. Some natural vegetation (i.e. roadside ditches, shrubs, trees, etc.), which serves as wildlife habitat, will also be diverted to highway use.

In addition, the project will require the probable displacement of one existing farm home. The effect of such a dislocation on the individuals involved is considered to be short-term because human populations are adaptable and have the ability to relocate. It is necessary, however, to allow adequate time and to provide just compensation to minimize this impact.

It is possible that the proposed project could have an effect on future land use in the project corridor. Presently, most of the land adjacent to Iowa 28 is in agricultural production and according to the Intensity Development Pattern contained in the 208 Waste Treatment Management Plan, land use in the corridor is not expected to change significantly by the year 2000, except in the corridor area directly north of the Norwalk corporate limits, where some residential development is forecast. The proposed four-lane improvement should encourage residential development in that area, and may ultimately encourage growth in the remainder of the study corridor, as well.

The noise environment and air quality within the immediate study area will deteriorate somewhat as a result of predicted future traffic volume increases in the highway corridor. This is viewed as a long-term impact of the project, but would likely have occurred regardless of whether or not the proposed improvement was undertaken, as future traffic projections are similar under either condition.

The foreseen impacts from the use of the existing environment for a long-term facility must be weighed against the anticipated long-term benefits in justifying a highway project such as this. The proposed improvement will provide a high quality transportation corridor. As a result, the road user will experience added safety, reduced traffic congestion, and a time and cost savings.

SECTION IX. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

Investment in a highway improvement project such as Iowa 28 results in long-term commitments of the elements involved in the project, some of which are irreversibly committed. Resources which must be committed to a highway project include:

Space - This includes the surface, subsurface, and air space. In some cases, there are multiple use possibilities for space over, under and around a highway project. The most common examples of this multiple use of space in rural areas, and ones which could be applicable to this project, are the maintenance and enhancement of surface water drainage around and under the highway and the management of wildlife habitat in unused portions of the right-of-way. A further example in this corridor, should the need and feasibility be shown, would be the proposed bicycle trail. This commitment of space is not necessarily irreversible. If, in the future it would become desirable to change the land use where a highway corridor has been established, it would be possible to remove the highway facility and again develop the land in other ways. This would, however, be a very remote probability.

Existing Landscape - In the construction of most highways the existing shape of the land must be altered to conform to a useable design for vehicle transportation. Because of both engineering and aesthetic considerations, it is desirable to keep this alteration to a minimum. A highway that blends with the surrounding terrain is not only more attractive but most often is more economical to build. This factor is being considered in the planning for this project, but in some areas the existing configuration of the landscape within the corridor would be changed due to the cutting and filling necessary to achieve the gentle grades of a modern highway.

A basic alteration in the corridor area will be the diversion of up to approximately 24 acres of land, a portion of which is presently used as cropland and pastureland, to a transportation facility. The removal of trees, grasses and other vegetation that accompanies this land diversion will also displace some wildlife. The sacrifice of mature trees dispersed throughout the project corridor, whether they serve simply as visual amenities, function as windbreaks or provide wildlife protection will be a loss of aesthetic quality, wherever they occur. The loss of trees must be regarded as a permanent commitment of a treasured resource.

Construction Materials - These include cement, sand, gravel, asphalt, steel, aluminum and other products typical of large-scale construction. In all probability, these elements will be committed permanently. In the event of future highway removal, however, some of the materials could be recycled. Any utilization of used construction material would depend upon the needs and economics of the time. The cost of the land, construction materials and labor for the project will also be irretrievable commitments.

Construction Machinery - The equipment, motor fuels and lubricants used during construction will also be irreversible commitments. The quantities of these products currently being expended on highway projects are becoming more significant in relation to national use and declining availability. However, these resources are considered to be beneficially employed in a responsible long-term capacity.

Future Commitments - By constructing this facility, a commitment of future expenditures is made, primarily in the form of necessary maintenance. The major natural resource within the project area, which for all practical purposes will be irretrievably committed to transportation use, is the land, most of which is presently committed to agricultural or residential use.

**SECTION X.
IMPACT ON PROPERTIES AND SITES OF HISTORIC
AND CULTURAL SIGNIFICANCE**

The State Historic Preservation Officer and the Office of the State Archaeologist were contacted regarding a study to determine possible conflicts with the preservation of archaeological and/or potential historic sites. A Cultural Resource Assessment Report, which included an archaeological assessment, a structural analysis, and an historical assessment, was submitted to the Iowa Department of Transportation by the Office of the State Archaeologist on September 23, 1977. The findings of the assessment were summarized in the report as follows:

"Based on the pedestrian survey of the project, the archaeological potential appears low. The proposed project should have no appreciable impact on the historical character of the project area. No National Register sites are located within the project area, nor were any potential sites discovered during the on-site inspection. One bridge structure will be replaced in conjunction with this project, but it is of standard design type. No information was found to indicate that any of the possible displacements are of historic importance."

A copy of the complete Cultural Resource Assessment Report and the appropriate clearance letter from the Office of Historic Preservation are included in Section XI, Comments and Coordination, Part A.

**SECTION XI.
COMMENTS AND COORDINATION**

This section is divided into two parts, A and B. Part A consists of comment letters from various governmental agencies, relative to the potential impacts of the proposed Iowa 28 highway improvement. These comments were solicited during various stages of project development and have been duly considered in the development of the Draft and Final Negative Declarations for this proposed project. Documentation of coordination with the Warren and Polk County Soil Conservation Districts concerning prime farmland right-of-way requirements in the project area is also included, as is the complete Cultural Resource Assessment Report and the appropriate clearance letter from the Office of Historic Preservation.

Part B consists of a summary of comments received at the March 28, 1978, Corridor Public Hearing, a summary of the letters received within the specified time period following that hearing, and responses to those comments and concerns.

Part A

A list of the agencies from whom early coordination comments were solicited, follows; an asterisk denotes a response was received:

Federal Agencies

U.S. Department of Agriculture

- *Soil Conservation Service
- *Warren County Soil Conservation District
- *Polk County Soil Conservation District

U.S. Department of Interior

- *Bureau of Mines
- *Fish and Wildlife Service

U.S. Department of Housing and Urban Development

U.S. Department of Transportation

- *Federal Aviation Administration

State Agencies

- *Office for Planning and Programming
- *Office of the State Archaeologist
- *State Historic Preservation Officer

Local Agencies

City of Des Moines

- *Director of Aviation

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

693 Federal Building, Des Moines, Iowa 50309

August 24, 1977

Mr. Harry S. Budd
Project Engineer
Department of Transportation
Highway Division
800 Lincoln Way
Ames, Iowa 50010

Dear Mr. Budd:

This is to acknowledge your recent letter requesting assistance from the Soil Conservation Service for the development of Iowa 28 in Warren and Polk Counties.

I believe we have provided you with prime farmland and soil survey information. We would be most happy to provide any further assistance through the local soil conservation districts in Polk and Warren Counties. Please contact the following offices for assistance:

Polk County Soil Conservation District
William Mills, District Conservationist
109 East First Street
Ankeny, Iowa PH: (515) 964-1883

Warren County Soil Conservation District
Henry Staubus, District Conservationist
1206 E. 2nd Avenue
Indianola, Iowa PH (515) 961-5264

Sincerely,



William J. Brune
State Conservationist



September 14, 1977

Iowa 28
F-28-1 Warren Co.
F-28-2 Polk Co.

Mr. William Mills
District Conservationist
109 E. First Street
Ankeny, Iowa 50021

Dear Mr. Mills:

Enclosed is a copy of a portion of the Important Farmland Map for Polk County. This map was used to calculate the amount of Prime Farmland which would be diverted to transportation use by the four lane development of Iowa 28 along its existing alignment in Polk County. Prime and/or Unique Farmland adjacent to the Iowa 28 project is colored green. The additional needed right-of-way is marked on the map.

The project will require 23.6 acres total additional right-of-way in Polk and Warren Counties. The following tabulation illustrates our findings.

<u>Additional ROW Required-Polk</u>	<u>Prime Farmland Required-Polk</u>	<u>Per Cent of ROW</u>	<u>Unique Farmland Required</u>
7 acres	2.4 acres	34%	None

Please review this information as it will be included in the Draft EIS for Iowa 28. If you agree with our calculations, please let us know.

If you have questions, please feel free to contact our office.

Office of Project Planning
Iowa Department of Transportation
800 Lincoln Way
Ames, Iowa 50010
515-296-1225

Your cooperation is appreciated.

Mr. William Mills
Page 2
September 14, 1977

Very truly yours,

Harry S. Budd
Project Engineer

HSB:TM:dkd

Enclosure

cc: D. E. McLean
Director of Highways
Iowa DOT, Ames, Iowa 50010

Y
R
O
C

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE


Harry S. Budd, Project Engineer
Office of Project Planning
Department of Transportation
Highway Division
800 Lincoln Way
Ames, Iowa 50010

REF: IOWA 28

Dear Sir:

I have reviewed the site in question in your letter of 14 September 1977, and the information needed for the Draft EIS for Iowa 28 and agree with your calculations.

Very truly yours,


William A. Mills,
District Conservationist
Soil Conservation Service
109 East First
Ankeny, Iowa 50021

WAM/elv

cc: Keith Glandon, AC
Soil Conservation Service
763 Federal Bldg.
Des Moines, Iowa 50309



September 14, 1977

Iowa 28
F-28-1 Warren Co.
F-28-2 Polk Co.

Mr. Henry Staubus
District Conservationist
Warren County Soil Conservation District
1206 E. 2nd Avenue
Indianola, Iowa 50125

Dear Mr. Staubus:

Enclosed are copies of the field soil survey sheets used to calculate the amount of Prime Farmland which would be diverted to transportation use by the four lane development of Iowa 28 along its existing alignment in Warren County. Any urbanized areas, housing developments, and land lying inside corporate limits which is undeveloped but not farmed and is classified as Prime was not included in our computations as Prime Farmland; these areas are marked in red. Prime and/or Unique Farmland adjacent to the Iowa 28 project is colored green; additional right-of-way which is needed for this project is marked a darker green.

The project will require 23.6 acres total additional right-of-way in Polk and Warren Counties. The following tabulation illustrates our findings.

<u>Additional ROW Required-Warren</u>	<u>Prime Farmland Required-Warren</u>	<u>Percentage of ROW</u>	<u>Unique Farmland Required</u>
16.6 acres	4.9 acres	30%	None

Please review this information as it will be included in the Draft EIS for Iowa 28. If you agree with our calculations, please let us know.

If you have questions, please feel free to contact our office.

COPY

HSB:TM:dkd
Enclosure
cc: D. R. McLean
Director of Highways
Iowa DOT, Ames, Iowa 50010

Harry S. Budd
Project Engineer

Very truly yours,

Your cooperation is appreciated.

Office of Project Planning
Iowa Department of Transportation
800 Lincoln Way
Ames, Iowa 50010
515-296-1225

Mr. Henry Stubbins
page 2
September 14, 1977

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

September 20, 1977

Harry S. Budd, Project Engineer
Office of Project Planning
Iowa Department of Transportation
800 Lincoln Way
Ames, Iowa 50010

SUBJECT: Prime and/or Unique Farmland adjacent to Highway 28

Dear Mr. Budd:

The soil mapping units, 370-B1 Sharpsburg, 368 and 368-B1 Macksburg, and 133 Colo, located near highway 28 in the 2 mile section located in Sections 1 and 12 T-77N R-25W, Sections 6 and 7 T-77N R-24W of Warren County have been identified as prime farmland.

Sincerely,



Henry L. Staubus
District Conservationist

HLS:ms

cc: Keith Glandon





United States Department of the Interior
OFFICE OF THE SECRETARY

MISSOURI BASIN REGION
DENVER, COLORADO 80225

May 10, 1977

Mr. Robert L. Humphrey
Project Planning Engineer
Department of Transportation
Highway Division
800 Lincoln Way
Ames, Iowa 50010

Dear Mr. Humphrey:

This is in response to your letter of May 2, 1977 requesting comments concerning a four-lane development along the existing alignment of Iowa 28 in Warren and Polk Counties, Iowa.

By copy of this letter with attachments, we have requested the interested Bureaus in the Department to respond directly to you regarding any concern they might have in this area.

Sincerely yours,

John E. Raybourn
Regional Environmental Review Officer

cc: B/M
BOR
GS
FWS
NPS



United States Department of the Interior

BUREAU OF MINES

BUILDING 20, DENVER FEDERAL CENTER
DENVER, COLORADO 80225

Office of
Chief

Intermountain Field Operations Center

May 16, 1977

Mr. Robert L. Humphrey
Project Planning Engineer
Department of Transportation
Highway Division
800 Lincoln Way
Ames, Iowa 50010

Dear Mr. Humphrey:

Reference is made to your recent request for comments concerning a four-lane highway development project (Iowa 28) in Warren and Polk Counties, Iowa.

We would hope that the draft environmental statement includes summary results of the recent statewide inventory of coal resources and the impacts that coal may have if mineable reserves are indicated within the study area. Moreover, the statement should include the impact that the development will have on deposits of sand and gravel, road rock, building stone, and other mineable materials that may be found in the right-of-way or vicinity of the project.

Sincerely yours,

Raymond L. Lowrie, Chief
Intermountain Field Operations Center

cc: Special Assistant to the Secretary
Missouri Basin Region, Denver, Colo.





UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
Federal Building - Room 1748
601 East 12th Street
Kansas City, Missouri 64106

June 28, 1977

Mr. Robert L. Humphrey
Project Planning Engineer
Iowa Department of Transportation
Highway Division
800 Lincoln Way
Ames, Iowa 50010

Dear Mr. Humphrey:

This is in response to your early coordination letter of May 2, 1977 to the Office of the Secretary of Interior in Denver, requesting comments relative to potential impacts of the improvement of Iowa Highway 28 in Warren and Polk Counties.

We have reviewed the proposal and have conferred with the Iowa Conservation Commission. As a result, we feel there should be no significant impacts suffered by the fish and wildlife resource as a result of project implementation.

Thank you for the opportunity to comment.

Sincerely yours,

Paul P. Hamilton
Area Supervisor
Ecological Services

cc: RD, Denver (ENV)
Iowa Conservation Commission,
Des Moines, Iowa
Office of the Secretary,
Denver, Colorado



United States Department of the Interior

NATIONAL PARK SERVICE

MIDWEST REGION
1709 JACKSON STREET
OMAHA, NEBRASKA 68102

MAR 14 1978

IN REPLY REFER TO:

L7621 MWR DCL

Project Planning Engineer
Department of Transportation
Planning and Research Division
800 Lincoln Way
Ames, Iowa 50010

Dear Sir:

Thank you for your notice concerning the following proposed project:
F-28-1 & F-28-2, Warren-Polk Counties, Iowa 28.

No established or studied units of the National Park System or properties under study or designated as National Historic, Natural, or Environmental Educational Landmarks appear to be adversely affected by the proposal.

Accordingly, we have no objections to the performance of the proposed work provided that the following checked conditions are satisfactorily resolved.

1. We suggest that you consult the State Historic Preservation Officer for information concerning historic or other cultural values including properties entered or potentially eligible for the National Register of Historic Places as it may be influenced by the proposed construction.
2. As one of the concerns of the National Park Service is archeological studies, we feel that some thought should be given to archeological resources in project planning. As the proposal develops, we will be concerned that action is taken or proposed to determine whether archeological resources are present in the construction area.
3. Other Comments:

Sincerely yours,

Merrill D. Beal
Regional Director

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

CENTRAL REGION
601 EAST 12TH STREET
KANSAS CITY, MISSOURI 64106



JUL 12 1977

Mr. Robert L. Humphrey
Project Planning Engineer
Department of Transportation
Highway Division
800 Lincoln Way
Ames, Iowa 50010

Subject: Des Moines Municipal Airport, Des Moines, Iowa
Proposed improvement of Highway 28

Dear Mr. Humphrey:

This is in response to your letter of May 2, 1977, regarding the proposed widening of Highway 28 south of Army Post Road.

The City of Des Moines is currently doing a Master Plan Study for the Des Moines Municipal Airport which will result in a long-range development plan for the airport. The study has not yet progressed to the point where the future layout of runways and facilities has been determined; and until the latter is accomplished, we cannot ascertain how the highway improvement project would relate to future planning for the airport.

We suggest that you establish contact with Mr. Don Tharp, Director of Aviation for the City of Des Moines, as his office may have information applicable to the situation.

We appreciate your contacting us on matters such as this and we regret that we are not able to furnish you a definitive response in this particular case. However, we are confident that continued coordination on the matter will result in a compatible plan for both the highway and the airport.

Sincerely,

Melvin J. Fischer
for MELVIN J. FISCHER
Chief, Planning Branch

city of des moines

Department of Aviation



October 25, 1977

Mr. Harry S. Budd
Project Engineer
Iowa Department of Transportation
Highway Division
800 Lincoln Way
Ames, Iowa 50010

Ref: F-28-1 and F-28-2,
Warren-Polk Counties, Iowa 28

Dear Mr. Budd:

In addition to the reference noted above we refer to your letter dated July 27, 1977, on this subject. We have delayed our response with the hope that we could come up with some definitive information regarding future expansion of the Airport and the effect of that planning on your Highway 28 project. The information currently at hand is slightly better than that available upon receipt of your letter, but still quite indefinite.

The Airport Master Plan Study has progressed to the consideration of several concepts which we believe to be possibilities for the future development of the Airport. It appears that, at the minimum, several months will pass before these concepts can be refined to a single recommended plan. We therefore felt that we should not further delay our response to you, even though, we are able to tell you only that one or more of the concepts being considered would seriously affect the north end of your project on Highway 28.

We recognize the fact that this isn't the kind of answer you need, but we felt it would be better than continued delay. If we can help you in any way, we would be happy to try. Also, we will try to keep you posted on any firming of the Airport planning as we progress with the Master Plan Study.

Sincerely yours,

A handwritten signature in cursive script that reads "Donald E. Tharp". The signature is written in dark ink and includes a long horizontal flourish at the end.

Donald E. Tharp, A.A.E.
Aviation Director

DET:hf

September 7, 1978

Mr. Ken J. Toomsen
Project Supervisor
Planning and Research Division
Iowa Department of Transportation
800 Lincoln Way
Ames, Iowa 50010

Ref. No.: F-28-1 and F-28-2
Warren-Polk Counties
Iowa 28

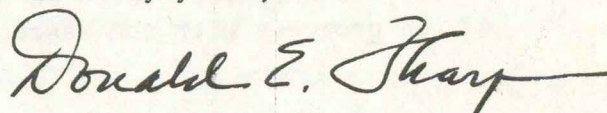
Dear Mr. Toomsen:

Reference is made to your letter of August 9, 1978, and our previous correspondence on the above-referenced Project.

While our Airport Master Plan Study remains unfinished, it has progressed to the final stage and the Concept 4 as previously described continues to appear to be the plan which will become the official plan for further development of the Airport. This plan has a tentative approval by the Des Moines City Council and has been modified to a substantial degree from its original form. This plan, as modified, would not infringe upon Highway 28 and it is our best guess, at this time, that Airport development will not so infringe between the current date and 1995.

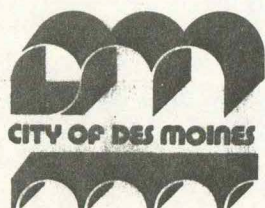
Since the plan has not become official, nor has it been finalized, we cannot do more than guess as to the possible effect on the Highway. It is unfortunate that we cannot be more definite, but this is the best we can do at this time. We hope this will be helpful to you.

Sincerely yours,



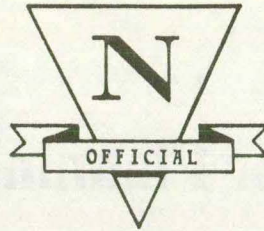
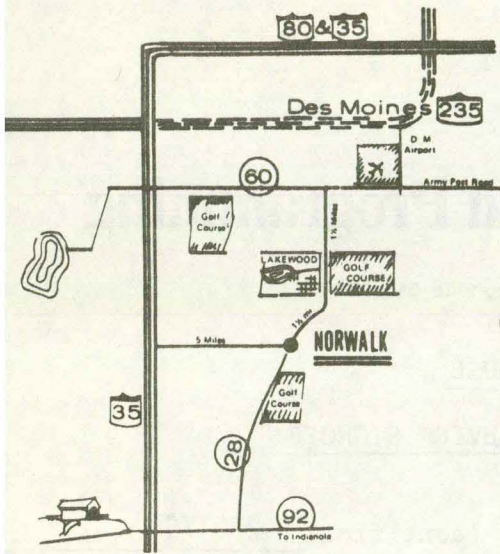
Donald E. Tharp, A.A.E.
Aviation Director

DET:hf



AVIATION DEPARTMENT
FLEUR DRIVE AND
ARMY POST ROAD
DES MOINES, IOWA 50321
(515) 283-4255

1949 ALL-AMERICA CITY 1976-77



CITY OF NORWALK
NORWALK, IOWA 50211

Mayor
David D. Hoskins
Councilmen
Paul Barkley
Jack Lane
Wilmer Elsinga
Dan Tometich
Dean Johnson
Clerk and Director of Public Works
Merle E. Huff
Treasurer
Charles Pettit
Chief of Police
M. W. Richardson
Attorney
Mason Ouder Kirk
Engineer
Brown Engineering Co.

May 2, 1978

Iowa Department of Transportation
Planning and Research Division
800 Lincoln Way
Ames, Iowa 50010

Mr. Robert L. Humphrey
Project Planning Engineer

Ref: Bike Path along Highway 28

Dear Sir:

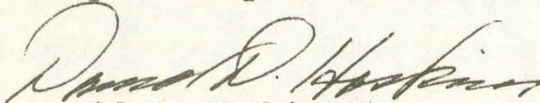
The City of Norwalk wishes to re-affirm that consideration be given to the installation of a bike path when Highway 28 is widened.

To further the possible use of the bike path, the City of Norwalk, in cooperation with the Norwalk Community School District, provides a sports complex at the Norwalk Community High School located on North Avenue East of Cherry St.. This complex, at the present time, includes 4 lighted tennis courts, 5 Babe Ruth and Little League ball fields and 1 lighted soft ball field. Also the City has proposed an indoor-outdoor swimming pool for this area with construction proposed in 1979.

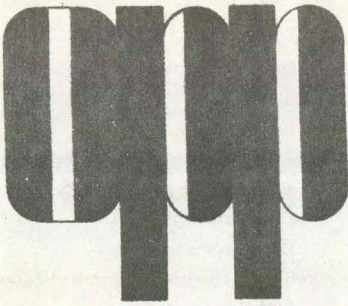
If the Department proposes to build this bike path, the City of Norwalk will designate Cherry Street from Highway 28 to North Ave. and North Ave. East from Cherry St. to the school entrance a bike path and install the needed signs showing such designation.

We wish to thank you for this consideration.

Respectfully submitted,


David D. Hoskins
Mayor, City of Norwalk, Iowa

DDH/am



STATE OF IOWA

Office for Planning and Programming

523 East 12th Street, Des Moines, Iowa 50319 Telephone 515/281-3711

ROBERT D. RAY
Governor

STATE CLEARINGHOUSE

ROBERT F. TYSON
Director

PROJECT NOTIFICATION AND REVIEW SIGNOFF

Date Received: July 19, 1977 State Application Identifier: 780175
Review Completed: August 12, 1977

APPLICANT PROJECT TITLE:
Iowa 28 Warren County RF-28-1, Polk County RF-28-2, Primary Roads

APPLICANT AGENCY: Department of Transportation Ames, Iowa 50010
Address Highway Division Robert L. Humphrey
800 Lincoln Way Project Planning Engineer

FEDERAL PROGRAM TITLE, AGENCY AND CATALOG NUMBER: Highway Reseach Planning and Construction
Department of Transportation
Federal Highway Administration
Catalog No. 20,205

AMOUNT OF FUNDS REQUESTED: Federal Funds - \$ 1,713,600
State Funds - 734,400 TOTAL FUNDS - \$ 2,448,000

PROJECT DESCRIPTION:
The purpose of the project is to provide a safer and more efficient highway capable of handling existing and future traffic needs.

The State Clearinghouse makes the following disposition concerning this application:

- No Comment Necessary. The application must be submitted as received by the Clearinghouse with this form attached as evidence that the required review has been performed.
- Comments are Attached. The application must be submitted with this form plus the attached comments as evidence that the required review has been performed.

STATE CLEARINGHOUSE COMMENTS:

Federal Funds Coordinator



December 27, 1977

104 1/2 East Locust
Des Moines, Iowa
50309
515-244-3257

Executive Board

Chairman
Mayor
C. D. Millsap
Windsor Heights

Vice Chairman
Mayor
Ollie Weigel
Ankeny

Treasurer
Mayor
Murray Drake
West Des Moines

Members-at-Large
Supervisor
Richard Brannan
Polk County

Mayor
Lew McKinney
Cumming

Supervisor
Johnie Hammond
Story County

Mayor
Richard Olson
Des Moines

Executive Director
Dennis K. Harney

Mr. John B. Carpenter
Highway Division
Iowa Department of Transportation
800 Lincoln Way
Ames, Iowa 50010

Dear Mr. Carpenter:

Enclosed is the A-95 review sign-off and accompanying comments for proposed improvements to Iowa 28 in the Des Moines area. In addition to these comments, three areawide committees have examined the project and offered remarks which are summarized herein.

One common point of concern is that CIRALG and area local governments be kept abreast of developments on Iowa 28 and provide an opportunity to have input on the eventual design and location of the improvements.

The CIRALG A-95 Review Committee has two additional concerns relating to the location. First is the fact that Norwalk and Cumming's source of water is furnished through a main which lies along the existing highway right-of-way. Construction should not impair the availability of water to these communities on a short or long term basis. Another question unresolved is why the starting point of the project does not coincide with the southern city limits of Norwalk.

In terms of design, the Des Moines Urban Area Transportation Planning Policy Committee and the 208 Des Moines Metro Sewer Policy Committee suggest that special attention be made in the design and location of access points on Iowa 28. A lack of control would work to impede traffic flow and encourage related land use problems in the committee's opinions.

Sign-off on the PNRS Letter of Intent was made by the A-95 Review Committee on November 16, 1977. The urbanized portion of the project was approved with comments by the Des Moines Urban Area Transportation Planning Policy Committee on December 20, 1977 while comments from the 208 Des Moines Metro Sewer Policy Committee were approved at their meeting on December 22, 1977.


John B. Carpenter
Highway Division

-2-

December 27, 1977

If you have any questions regarding this review, please contact me. I trust that IDOT will continue to keep area local governments informed of activity relating to the design and construction of Iowa 28 and improvements.

Sincerely,


Lewis McKinney
Chairman, CIRALG A-95 Review Committee

LMcK/lc
Enclosures

December 27, 1977

Re: A-95 Review

Dear Applicant:

We are pleased to inform you that the Association has finished the review of the subject project. This letter serves as the Areawide Clearinghouse Notification and Review Signoff.

Date Received 10-20-77 Review Completed 12-22-77 CIRALG Identification No. 77-207

APPLICANT PROJECT TITLE: Iowa Highway 28

APPLICANT AGENCY: Iowa Department of Transportation
Address: 800 Lincoln Way
Ames, Iowa 50010

FEDERAL FUNDING AGENCY: DOT

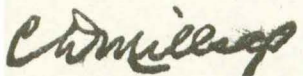
AMOUNT OF FUNDS REQUESTED: Federal: 1,713,600.00
State : 734,400.00
Local :
Total : \$2,448,000.00

Your application must be submitted with this form plus any attached comments, as evidence that the required review has been performed. The Areawide Clearinghouse makes the following disposition concerning this application:

Favorable Review
 Unfavorable Review
 No Clearinghouse Comment
 Comments Are Attached

AREAWIDE CLEARINGHOUSE COMMENTS:

SEE ATTACHED



C. D. Millsap

Chairman, Central Iowa Regional Association of Local Governments

November 17, 1977

RECEIVED

NOV 19 1977

CENTRAL IOWA REGIONAL
ASSOCIATION OF LOCAL GOVERNMENTS

Mr. C. D. Millsap, Chairman
Central Iowa Regional Association
of Local Governments
104½ East Locust Street
Des Moines, Iowa 50309

Dear Mr. Millsap:

Re: A-95 Review No. 286,
Iowa Highway 28

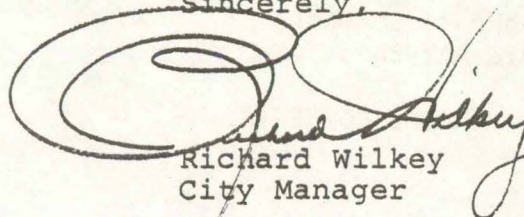
This is in response to your A-95 Summary Memo received by this office on October 25, 1977 soliciting the City's comments with respect to the above-referenced application for Federal funding, as part of the A-95 Review process.

Please be advised that, based upon the information presented, the City administration does not object to the funding of this project.

However, it should be noted that at Army Post Road, the proposed highway improvement connects with the proposed alignment of Southwest 42nd Street. The initial 1990 Transportation Plan for the City of Des Moines indicated that Southwest 42nd Street would be developed across the Raccoon River. Since that time, however, developments indicate that the initial plan may preclude this improvement, but an accurate forecast cannot be made in the urban transportation planning process until late next year. If the proposed development of Southwest 42nd Street is dropped, then the Traffic and Transportation Director suggests that the possibility of a connection with either Fleur Drive or 63rd Street be considered.

If I can provide you with any further information, please contact my office.

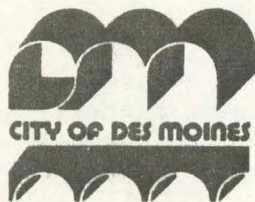
Sincerely,



Richard Wilkey
City Manager

RW/db

cc: City Engineer
Traffic and Transportation
Director



OFFICE OF THE CITY MANAGER
CITY HALL
EAST FIRST AND LOCUST
DES MOINES, IOWA 50307
(515) 283-4141

1949 ALL-AMERICA CITY 1976-77

A-95 SUMMARY MEMO



FOR YOUR COMMENT AND REVIEW

The following project has been referred to CIRALG for comment and review. Before we make a decision, we want to know how this project will affect you and your community. Please help us by taking the time from your busy schedule to fill out and return this form.

Ed Miller
CIRALG Chairman

An illustration of a hand holding a pen, positioned to the right of the signature.

APPLICANT:	Iowa Dept. of Transportation
PROJECT TITLE:	Iowa Highway 28
FILE NUMBER:	77-207
FUNDING AGENCY:	DOT/FHWA
SHARE AMOUNTS:	Federal \$1,713,600
	State 734,400
	Total \$2,448,000

SUMMARY:

See Attached.

No Comment

Favorable Review

Unfavorable Review

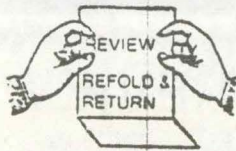
COMMENTS:

Honorable Richard Franklin
Mayor, City of Johnston
City Hall
5765 Merle Hay Road
Box 156
Johnston, Iowa 50131

COMMENTS REQUESTED BY: 11-7-77

115

A-95 SUMMARY MEMO



FOR YOUR COMMENT AND REVIEW

The following project has been referred to CIRALG for comment and review. Before we make a decision, we want to know how this project will affect you and your community. Please help us by taking the time from your busy schedule to fill out and return this form.

Ed Miller
CIRALG Chairman

APPLICANT: Iowa Dept. of Transportation
PROJECT TITLE: Iowa Highway 28
FILE NUMBER: 77-207
FUNDING AGENCY: DOT/FHWA
SHARE AMOUNTS: Federal \$1,713,600
State 734,400
Total \$2,448,000

SUMMARY:

See Attached.

- No Comment
 Favorable Review
 Unfavorable Review

COMMENTS:

Hon. Murray Drake
Mayor, City of West Des Moines
City Hall
318 5th Street
West Des Moines, Iowa 50265

RECEIVED
OCT 27 1977
CENTRAL IOWA REGIONAL
ASSOCIATION OF LOCAL GOVERNMENTS

COMMENTS REQUESTED BY: 11-7-77

A-95 SUMMARY MEMO



FOR YOUR COMMENT AND REVIEW

The following project has been referred to CIRALG for comment and review. Before we make a decision, we want to know how this project will affect you and your community. Please help us by taking the time from your busy schedule to fill out and return this form.

Chadwick
CIRALG Chairman

APPLICANT:	Iowa Dept. of Transportation
PROJECT TITLE:	Iowa Highway 28
FILE NUMBER:	77-207
FUNDING AGENCY:	DOT/FHWA
SHARE AMOUNTS:	Federal \$1,713,600
	State 734,400
	Total <u>\$2,448,000</u>

SUMMARY:

See Attached.

RECEIVED

OCT 27 1977

CENTRAL IOWA REGIONAL
ASSOCIATION OF LOCAL GOVERNMENTS

- No Comment
- Favorable Review
- Unfavorable Review

Honorable Guy V. Drake Jr.
Mayor, City of Milo
City Hall
Milo, Iowa 50166

COMMENTS:

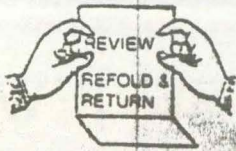
*This project will not affect our
community due to distance we are from
project.*

COMMENTS REQUESTED BY: 11-7-77

117

CENTRAL IOWA REGIONAL ASSOCIATION OF LOCAL GOVERNMENTS

A-95 SUMMARY MEMO



FOR YOUR COMMENT AND REVIEW

The following project has been referred to CIRALG for comment and review. Before we make a decision, we want to know how this project will affect you and your community. Please help us by taking the time from your busy schedule to fill out and return this form.

C. Williams
CIRALG Chairman

APPLICANT:	Iowa Dept. of Transportation
PROJECT TITLE:	Iowa Highway 28
FILE NUMBER:	77-207
FUNDING AGENCY:	DOT/FHWA
SHARE AMOUNTS:	Federal \$1,713,600
	State 734,400
	Total <u>\$2,448,000</u>

SUMMARY:

See Attached.

- No Comment
 Favorable Review
 Unfavorable Review

COMMENTS:

Honorable Nyle Hudson
Mayor, City of Elkhart
City Hall
Elkhart, Iowa 50073

RECEIVED

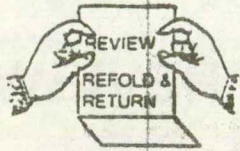
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CENTRAL IOWA REGIONAL
ASSOCIATION OF LOCAL GOVERNMENTS

COMMENTS REQUESTED BY: 11-7-77

118
CENTRAL IOWA REGIONAL ASSOCIATION OF LOCAL GOVERNMENTS

A-95 SUMMARY MEMO



FOR YOUR COMMENT AND REVIEW

The following project has been referred to CIRALG for comment and review. Before we make a decision, we want to know how this project will affect you and your community. Please help us by taking the time from your busy schedule to fill out and return this form.

Ed Milligan
CIRALG Chairman

APPLICANT: Iowa Dept. of Transportation
PROJECT TITLE: Iowa Highway 28
FILE NUMBER: 77-207
FUNDING AGENCY: DOT/FHWA
SHARE AMOUNTS:
Federal \$1,713,600
State 734,400
Total \$2,448,000

SUMMARY:

See Attached.

- No Comment
 Favorable Review
 Unfavorable Review

COMMENTS:

Honorable Richard Delk
Mayor, City of Pleasant Hill
City Hall
4450 Oakwood Drive
Pleasant Hill, Iowa 50317

RECEIVED

OCT 27 1977

CENTRAL IOWA REGIONAL
ASSOCIATION OF LOCAL GOVERNMENTS

COMMENTS REQUESTED BY: 11-7-77

CENTRAL IOWA REGIONAL ASSOCIATION OF LOCAL GOVERNMENTS

A-95 SUMMARY MEMO



FOR YOUR COMMENT AND REVIEW

The following project has been referred to CIRALG for comment and review. Before we make a decision, we want to know how this project will affect you and your community. Please help us by taking the time from your busy schedule to fill out and return this form.

C. Williams
CIRALG Chairman

APPLICANT: Iowa Dept. of Transportation
PROJECT TITLE: Iowa Highway 28
FILE NUMBER: 77-207
FUNDING AGENCY: DOT/FHWA
SHARE AMOUNTS:
Federal \$1,713,600
State 734,400
Total \$2,448,000

OFFICE OF THE MAYOR

OCT 24 1977

Indianola, Iowa

SUMMARY:

See Attached.

RECEIVED

OCT 25 1977

CENTRAL IOWA REGIONAL
ASSOCIATION OF LOCAL GOVERNMENTS

Honorable Kenneth E. Smith
Mayor, City of Indianola
City Hall
110 North 1st
Indianola, Iowa 50125

- No Comment
 Favorable Review
 Unfavorable Review

COMMENTS:

This will improve the safety on this busy road and improve the flow of traffic as it converges from the south, southeast and southwest from as far south as Osceola.

COMMENTS REQUESTED BY:

11-7-77

Kenneth E. Smith
Mayor - Indianola

A-95 SUMMARY MEMO



FOR YOUR COMMENT AND REVIEW

The following project has been referred to CIRALG for comment and review. Before we make a decision, we want to know how this project will affect you and your community. Please help us by taking the time from your busy schedule to fill out and return this form.

C. Williams
CIRALG Chairman

APPLICANT:	Iowa Dept. of Transportation
PROJECT TITLE:	Iowa Highway 28
FILE NUMBER:	77-207
FUNDING AGENCY:	DOT/FHWA
SHARE AMOUNTS:	Federal \$1,713,600
	State 734,400
	Total \$2,448,000

SUMMARY:

See Attached.

- No Comment
 Favorable Review
 Unfavorable Review

COMMENTS:

Honorable Lew McKinney
Mayor, Town of Cumming
City Hall - Cumming
Cumming, Iowa 50061

COMMENTS REQUESTED BY: 11-7-77

CITY OF CUMMING
CUMMING, IOWA 50061

TO: A-95 REVIEW COMMITTEE

SUBJECT; PROPOSED 4 LANE HIGHWAY
HIGHWAY 28

FROM: CITY OF CUMMING
CUMMING, IOWA

IN REGARDS TO A-95, 77-207, IT IS WITH REGRET THAT THIS COMMUNITY HAS TO
GIVE A NEGATIVE REVIEW BECAUSE OF THE FOLLOWING:

1. NOT ENOUGH INFORMATION IN REGARDS TO FENCE LINES.
2. IMPOSSIBILITY TO BUILD A 4 LANE ROAD IN PRESENT BOUNDRIES.
3. DEPTH OF PROPOSED DITCHES IN PROPOSED 4-LANE

IT IS THE FEELING OF THIS CITY COUNCIL THAT ENOUGH SURVEY WORK HAS BEEN
DONE IN THE PAST TO HAVE SOME OF THIS INFORMATION AVAILABLE AT THIS TIME
AS A WATER LINE FOR THE CITY OF CUMMING, IOWA WILL CROSS HIGHWAY 28, ONE
(1) MILE NORTH OF NORWALK AND A METER PIT WILL BE PUT IN.

THE CITY CAN NOT SEE WHY THERE SHOULD BE A POSSIBILITY OF HAVING TO
EITHER DIG UP AND LOWER THE WATER LINE OR POSSIBLY WE MIGHT HAVE TO
REMOVE THE METER PIT AND REPLACE, BOTH OF WHICH ARE VERY EXPENSIVE AND
IN OUR OPINION SHOULD NOT HAVE TO BE DONE IF THE PROPER INFORMATION IS
FORTHCOMING.

WE THANK YOU FOR GIVING US THE OPPORTUNITY TO COMMENT.

LEWIS H. MC KINNEY
MAYOR

The University of Iowa

Iowa City, Iowa 52242

Office of the State Archaeologist
Eastlawn

(319) 353-5175, 353-5177



September 23, 1977

Dr. Adrian Anderson
Historic Preservation Officer
26 E. Market
Iowa City, IA 52240

Dear Adrian:

Enclosed is the report for RF-28-1, RF-28-2, a reconstruction of Highway 28 in Warren and Polk Counties. The archaeological potential for this project appears low. Three displacements will occur and ownership histories for the residences have been compiled. No historical information of significance was obtained for the project.

I hope this report is adequate to obtain a clearance letter for this project.

Sincerely,

A handwritten signature in dark ink, appearing to read 'John Hotopp', written over a horizontal line.

John Hotopp
Highway Archaeologist

JH:eg
Enc.
CC: Bob Humphrey

Iowa Department of Transportation
and
Office of Historic Preservation

Agreement for Procedures for Project Evaluation
Fiscal 1977-1978

Project Number: RF-28-1, RF-28-2

Type of Project: Reconstruction

County: Warren and Polk

Bridges

- A1 Full cultural resource assessment
 A2 Partial cultural resource assessment
 A3 Limited archaeological or historical assessment

Road Improvements and New Constructions

- B1 Full cultural resource assessment
 B2 Partial cultural resource assessment
 B3 No assessment

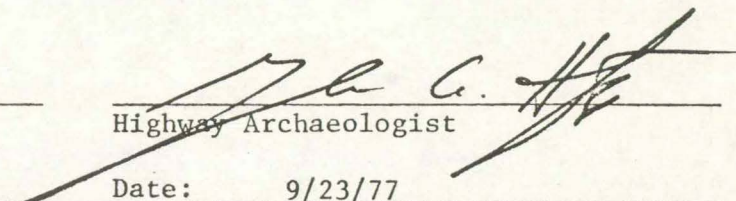
Miscellaneous

- C1 Cultural assessment
 C2 Archaeological or historical assessment
 C3 No assessment

By signature, the Office of Historic Preservation agrees to the classification of the proposed project and the action to be taken with respect to a cultural resource assessment of the project. If the Office of Historic Preservation does not agree with the classification and concomitant action, a comment and proposed scope of work will be indicated on this form.

Comment:

The Office of Historic Preservation



Highway Archaeologist

Date: _____

Date: 9/23/77

RF-28-1 and RF-28-2
Road Improvement
Warren and Polk Counties

A Report to the
Iowa Department of Transportation

Highway Division

by

John Hotopp

Highway Archaeologist

and

Emilie Lawrence

Field Archaeologist

Office of the State Archaeologist

and

Michael Lipsman

Cultural Resource Specialist

Iowa Department of Transportation

September, 1977

Project Completion Report
Primary Roads
Volume 1, Number 12
1977
RF-28-1 and RF-28-2
Warren and Polk Counties
Prepared by
John Hotopp and Emilie Lawrence
Office of the State Archaeologist
and
Michael Lipsman
Iowa Department of Transportation
for
The Iowa Department of Transportation
Highway Division

INTRODUCTION

Purpose of Project

The purpose of this project is to conduct an assessment of proposed highway construction under the terms of the ongoing highway cultural resource surveys contract negotiated annually between the Iowa Department of Transportation, Ames, and the University of Iowa, Iowa City.

Project Description

The Iowa Department of Transportation is proposing to improve a segment of Iowa 28 in Warren and Polk Counties from Elm Street in Norwalk, Warren County, northerly to Iowa 5 (Army Post Road) near Des Moines, Polk County. The proposed improvement involves an urban 4-lane section in Norwalk from Elm Street to near the north corporate limits, and a 4-lane rural section with 16-ft median from near the north corporate limit of Norwalk northerly to Iowa 5 (Fig. 1).

Description of the Project Area

Approximately 50% of the project area was in row crops (corn), another 10% was in pasture, and the remaining 40% was in residential land use. The project area lies within the landform region known as the Southern Iowa Drift

Plain, topographically most representative of "typical" Iowa landscapes (Prior 1976). The project area is transected by the Middle South Creek, which is a tributary of the North River. The soils within the project area consist primarily of silty clay loams developed from loess under what was originally prairie vegetation (Warren County Soil Survey 1974).

ARCHAEOLOGICAL ASSESSMENT

Methodology

A records check indicated that no known archaeological sites exist within the project area. The closest site lies 3 mi west of Highway 28. Interviews with local residents and landowners provided no additional information about the possible location of sites in the area. A pedestrian survey of the project area was conducted in September, 1977. Survey conditions were favorable in the cultivated fields because the corn had been stunted by droughthy conditions earlier in the summer. The ground was moistened by recent rains and generally weed-free, providing for good surface visibility. About 50% of the area in corn was covered in a pedestrian survey in 15 m transects (Fig. 1). The project area was generally thought to have a low to moderate site potential.

Results

Results of the pedestrian survey were negative; no archaeological sites or materials were located within the project area.

STRUCTURAL ANALYSIS

The proposed road improvement project for Iowa 28 will include one bridge replacement. This bridge, over Middle South Creek, is a 1 span steel beam/girder structure built in 1934. The substructure of this bridge consists of 2 concrete abutments with flared concrete wing walls and wing posts (Figs. 1 and 2).

HISTORICAL ASSESSMENT

Methodology

The project area has been defined as the corridor of land consisting of sections 1, 12, and 13 in Linn Township (T77N, R25W) and sections 6 and 7 in Greenfield Township (T77N, R24W), Warren County; and sections 36 (T78N, R25W) and 31 (T78N, R24W) in Bloomfield Township, Polk County. The procedure followed in conducting this study included the review of published historical literature pertaining to Warren and Polk Counties, an on-site inspection of the project corridor, and interviews with local officials in Norwalk. Also, an ownership history for 2 farmsteads that may be partially displaced was compiled from Polk County title transfer records and deeds.

Results

Eleven sites in Polk County and 1 in Warren County are currently included in the listings of the National Register of Historic Places. However, none of these sites is located within the project area (see Appendix).

No items of historic importance were discovered during the on-site inspection. Most of the buildings located within the Iowa 28 corridor are of recent construction. In particular, just south of the Warren-Polk County line, 2 new residential areas are being developed. The development east of the highway is Echo Valley Estates and consists primarily of homes in the \$65-100,000 range. The development west of the highway, Lakewood, appears to consist of more moderately priced homes, in the \$40-60,000 range. The areas of Norwalk that border the highway are also relatively new. In fact, the whole area along Iowa 28 between Norwalk and Des Moines is experiencing a significant amount of residential development that will probably continue at an increasing rate. Consequently, the historic character of the area, which emanated from its previous rural agricultural usage, has already been irreversibly altered.

Within Norwalk, no sites of potential historic importance were discovered, nor did the town clerk indicate any sites or buildings possessing significant local importance. It was noted that the oldest area of this town was near the intersection of North Avenue and Main Street, which is about 1000 ft east of the Iowa 28 alignment through the town.

In the northern portion of the project area, 2 pre-1900 buildings were observed that could be effected significantly by the project. Both of these sites are situated in section 31 (T78N, R24W), Bloomfield Township in Polk County. The northernmost site is a large 2-story, cube-shaped dwelling (Iowa Farm House, Type Three; Fig. 3), which will probably be displaced by the project. The second site, which may also be displaced, is a rectangular-shaped dwelling with a jerkinhead roof (Fig. 4). Several other buildings are located near this second house, but none will be displaced by the project. The most outstanding feature of the second site is the large number of trees surrounding the buildings and the white birch windbreak extending several hundred feet to the south along the highway. As currently proposed, the project will require the removal of many of these trees. (Ownership histories of both of these properties are provided below.)

The territory included in both Polk and Warren Counties was obtained by the U.S. Government from the Sauk and Fox Indians in 1842. The treaty required the 2 tribes to vacate the eastern portion of the cession by May 1, 1843, but allowed them to remain on the western portion of the cession for 3 additional years before removing to a reservation in Kansas. The line dividing the cession ran north-south through Red Rock on the Des Moines River in Marion County.

Thus, Polk and Warren Counties were not legally opened for white settlement until the fall of 1845. However, a small number of whites were permitted

to enter the region before that time in exchange for services they provided the new fort established at the junction of the Des Moines and Raccoon Rivers. One of these early settlers was John Parmelee, who together with Captain Allen of Fort Des Moines built the first mill west of the Red Rock line. This mill was located near Carlisle on the Middle River, thus making Parmelee the first permanent white inhabitant of Warren County. The Ewing brothers, George W. and Washington G., established the first claim in Polk County. The 2 traders actually arrived at the junction of the Des Moines and Raccoon Rivers a few days in advance of Captain Allen and the first contingent of the new Fort Des Moines garrison. Their claim, on which they built a trading house and cabin, was located on the east side of the Des Moines River a short distance below the fort site.

By October, 1845, several other white settlers had obtained permission to settle west of the Red Rock line. Even more entered the area illegally; within a short while after settlement became legal, most of the land in Polk and Warren Counties had been claimed. The official sale of land in these counties, however, did not begin until 1848.

According to Gerard Schultz and Don L. Berry, 1870 marked the end of the pioneer period in Warren County. By this time, the original sheds and cabins of early settlement had been replaced by substantial barns and "commodious" new houses.

From 1870 to around 1960, the project area was almost exclusively used for agriculture. Norwalk had remained a small rural community. Not being on a railroad line this town, which was founded in 1852, possessed only a few businesses that provided for the everyday needs of the surrounding farm population. In 1950, the population of Norwalk totaled only 539 people. By 1970, this number had increased to 1,745 and a special 1973 census showed that

growth was continuing at an approximate rate of 200 individuals per year. In addition, 2 new residential communities have begun to develop along Iowa 28 about midway between Norwalk and Army Post Road.

The growth of the city of Des Moines to the south, with the accompanying expansion of commercial and industrial enterprises in this direction, has resulted in a rapidly increasing demand for residential development south of the Des Moines Airport. This trend is already evident along Iowa 28 between Norwalk and Army Post Road. The proposed widening of this highway to a 4-lane divided facility will probably accelerate the transformation of the project area. It must be noted that this urbanization of the project corridor will continue regardless of whether or not the proposed project is implemented.

Ownership Histories

The proposed project will result in the displacement of 1 farm residence and 1 business, a convenience store. The project may also result in the partial displacement of 1 farmstead. Ownership histories for the farm residence and farmstead are provided below.

A. Farm residence: SW $\frac{1}{4}$, NW $\frac{1}{4}$, section 31-78-24 (Fig. 3).

1. Original land entry:

Oct. 26, 1854

Jenkin W. Morris

Note: Title transfer books missing until 1890.

2. March 23, 1900

Frank R. Lowe

from: Thomas Lowe & wife

3. Feb. 20, 1956

Mildred Lowe

from: Michael Doyle, Jr. (clk. dist. crt.)

B. Farmstead: W $\frac{1}{2}$, SW $\frac{1}{4}$, section 31-78-24 (Fig. 4).

1. original land entry:

Oct. 26, 1854

Jenkin W. Morris

Note: Title transfer books missing until 1890.

2. Feb. 26, 1906
C. E. Hunt, et al.
from: C. E. Wilcox (referee)
3. Feb. 28, 1907
Frank E. Fiske
from: C. E. Hunt, et al.
4. March 31, 1915
Alice C. DeMarce
from: Frank E. Fiske & wife
5. Feb. 26, 1920
Adam Stamm
from: Alice C. DeMarce
6. Oct. 2, 1937
Fred G. & Ethel B. French
from: Minnie A. Stamm, et al.
7. March 2, 1972
Bankers Trust Company
Trustee of Paul W. Steward Trust
from: Estate of Paul Steward

No biographical information was discovered about any of the owners of either of the above specified properties.

SUMMARY AND RECOMMENDATIONS

Based on the pedestrian survey of the project, the archaeological potential appears low. The proposed project should have no appreciable impact on the historic character of the project area. No National Register sites are located within the project area, nor were any potential National Register sites discovered during the on-site inspection. One bridge structure will be replaced in conjunction with this project, but it is of a standard design type. No information was found to indicate that any of the possible displacements are of historic importance.

REFERENCES CITED

-
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-
- 1969 Plat book of Polk County, Iowa. R. C. Booth Enterprises,
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1898 Annals of Polk County, Iowa, and City of Des Moines. Geo. A.
Miller Printing Company, Des Moines.
- Prior, Jean C.
1976 A regional guide to Iowa landforms. Iowa Geological Survey.
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1953 History of Warren County. The Record and Tribune Company.
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-
- 1974 Warren County Soil Survey.

APPENDIX: NATIONAL REGISTER SITES

Warren County

1. United Presbyterian Church
Carlisle vicinity

Polk County

1. Iowa State Capital Building
E 12th St. and Grand Ave., Des Moines
2. Old Southeast Water Trough
S.E. 11th and Scott St., Des Moines
3. Naylor House
944 W. 9th St., Des Moines
4. Jordan House
2251 Fuller Rd., West Des Moines
5. Terrace Hill
2300 Grand Ave., Des Moines
6. Bankers' Trust Building
605 Locust St., Des Moines
7. United States Post Office
2nd and Walnut Sts., Des Moines
8. The Lexington
1721 Pleasant St., Des Moines
9. Flynn Farm, Mansion and Barn
2600 - 11th St., Des Moines
10. Fort Des Moines Provisional Officers Training School
W $\frac{1}{2}$ - Section 34-78-24 and E $\frac{1}{2}$ - Section 33-78-24
11. Maish House
1623 Center St., Des Moines

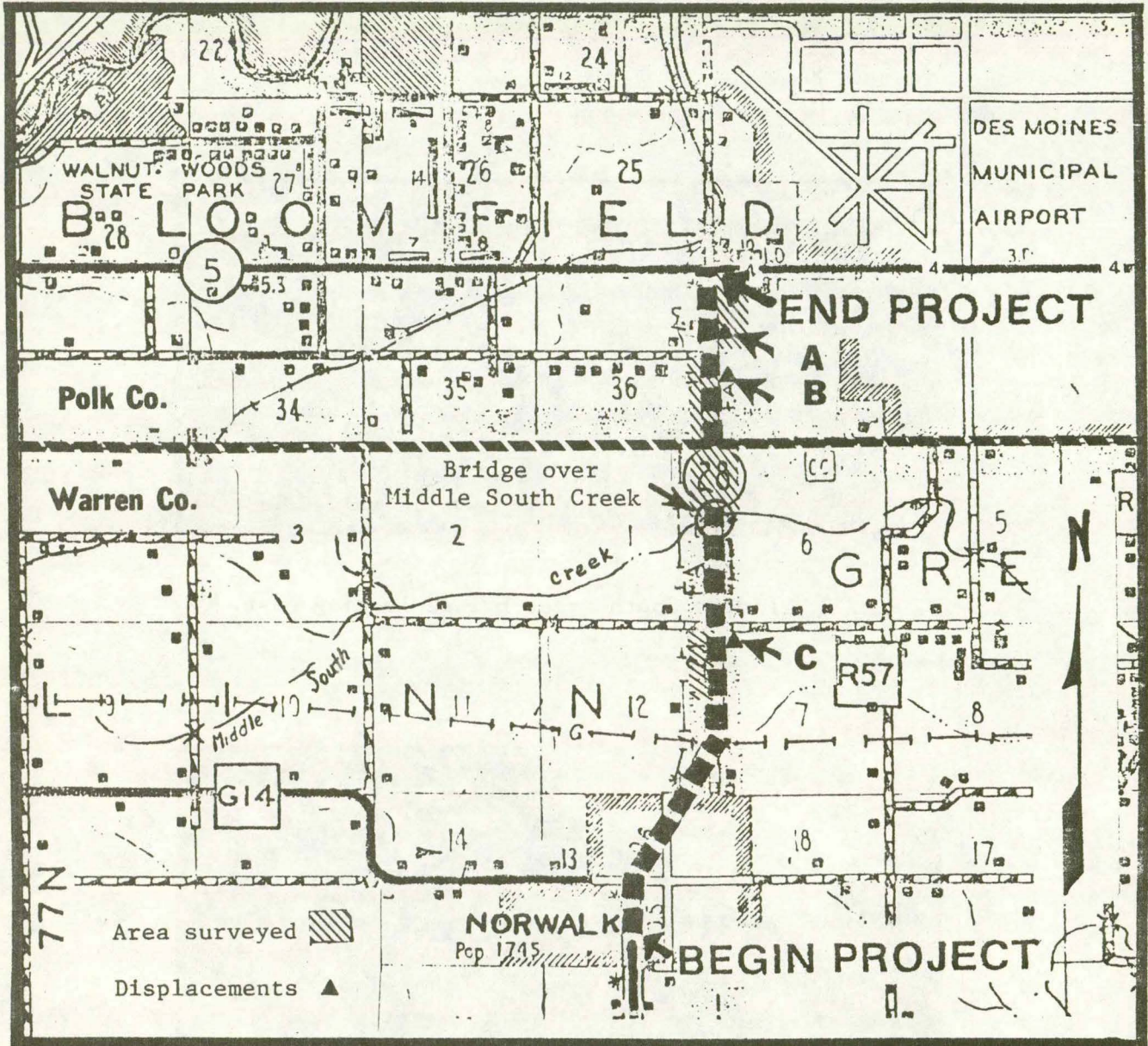


Fig. 1. Project RF-28-1, RF-28-2
Warren and Polk Counties

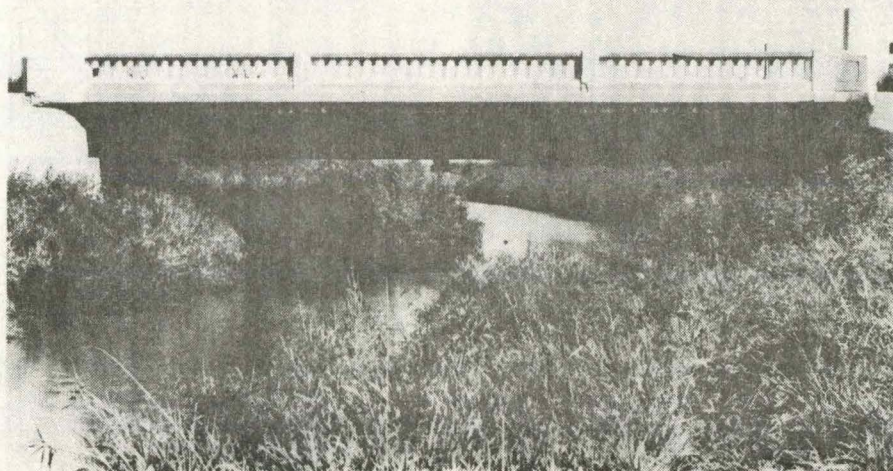


Fig. 2. Middle South Creek bridge looking east.

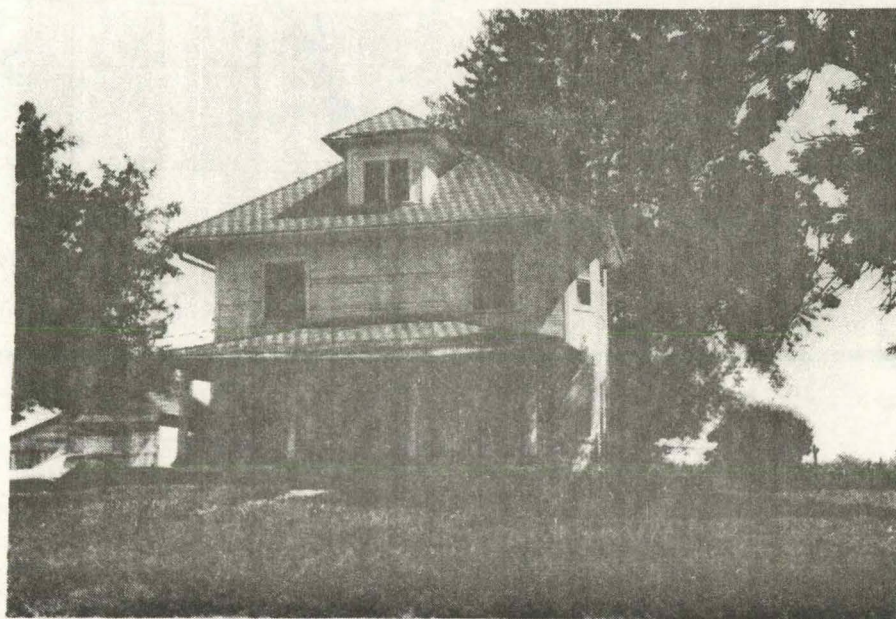


Fig. 3. Mildred Lowe house, east of Highway 28.

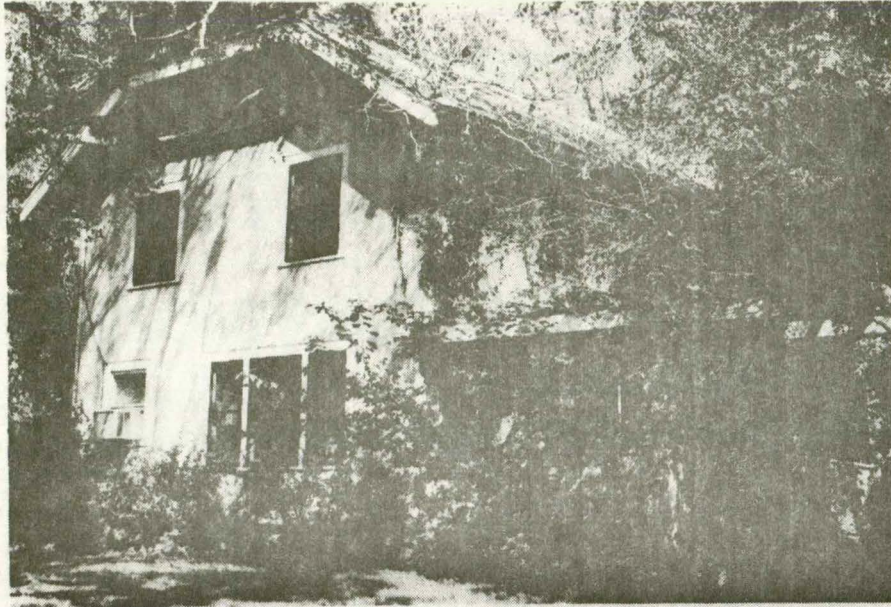


Fig. 4. Paul W. Steward house, east of Highway 28.



Fig. 5. Little Giant Country Store, east of Highway 28.

DIVISION OF HISTORIC PRESERVATION
IOWA STATE HISTORICAL DEPARTMENT

November 11, 1977

ADRIAN D. ANDERSON, DIRECTOR
STATE HISTORIC PRESERVATION OFFICER

Robert Humphrey
Department of Transportation
Highway Division
826 Lincoln Way
Ames, Iowa 50010

Re: RF-28-1 and RF 28-2; reconstruction of roadway in Warren and Polk Counties.

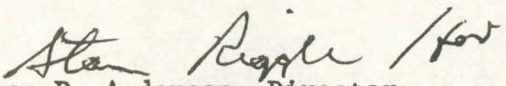
Dear Mr. Humphrey

Based on the information provided,

1. ___ we find the above proposed project to have no effect upon known historic or other cultural resources and therefore we recommend approval. However, if construction work uncovers an item or items that may be of historic, archaeological, or architectural interest or if important new historical data comes to light in the project area, the work should be delayed sufficient time to notify our office and to allow the significance of the discovery to be determined.
2. ___ on structures proposed for rehabilitation, removal or demolition in your letter of ___ our records show no sites with historic values that we think would be effected in the project area. However, if the proposed work discovers an item or items that may be of historic or archaeological interest or if important new historical data comes to light about properties in the project area, the work should be delayed sufficient time to notify our office so that the significance of the discovery can be determined.
3. and the report: RF-28-1 and RF-28-2, Road Improvement, Warren and Polk Counties; by John Hotopp, Emilie Lawrence, and Michael Lipsman.
we find this project to have no effect upon historic or cultural resources and therefore, we recommend approval. However, if construction work uncovers an item or items that may be of historic or archaeological interest or if important new historical data comes to light in the project area, the work should be delayed sufficient time to notify our office and to allow the significance of the discovery to be determined.

Your assistance and cooperation in completing the review of the proposed project is greatly appreciated.

Sincerely,


Adrian D. Anderson, Director
State Historic Preservation Officer

cc John Hotopp, OSA

Part B

On March 28, 1978, a corridor public hearing was held in Norwalk, Iowa, on the proposed location of Iowa 28 in Polk and Warren Counties. The hearing was attended by 125 persons and lasted two hours and 52 minutes. While the entire public hearing transcript is available at the Office of Project Planning, Iowa Department of Transportation, and at the Iowa Division Office of the Federal Highway Administration, the following is a summary of comments and statements made at the hearing and responses to those comments:

- Comment - There was considerable concern expressed by residents of Norwalk relative to the raised median concept in their City and the effect it would have on adjacent businesses.
- Response - The raised median concept has been eliminated south of High Road in Norwalk. See a discussion of the revised project concept in Section VI., Alternatives.
- Comment - Several area residents, primarily from the Lakewood and Echo Valley Estates communities, were concerned about the amount of right-of-way to be taken from their properties and the resultant decrease in property values.
- Response - The Iowa Department of Transportation will compensate property owners for any actual right-of-way acquired from their properties as well as for damages to the property, as a result of the highway improvement. In addition, it may be possible to construct the project without requiring additional right-of-way through the Lakewood-Echo Valley Estates area, by acquiring temporary easements, instead. This determination, however, cannot be made until accurate survey information is available, during final project design. See Section V., under Relocation and Right-of-Way Impacts, for additional information on right-of-way acquisition and compensation.
- Comment - The Mayor of Norwalk, the Norwalk Superintendent of Schools, and several area residents requested that a bike path be constructed between Norwalk and Lakewood-Echo Valley.
- Response - The Department of Transportation, because of this request, is undertaking a bikeway study between Norwalk and Lakewood-Echo Valley. See Section VI., Alternatives, for additional information.
- Comment - Several questions were raised relative to the construction of a noise barrier in the Lakewood-Echo Valley area.
- Response - For those noise sensitive receptors located in Lakewood and Echo Valley Estates, the incorporation of some type of noise barrier into the design of this project does appear to be a feasible and effective method of noise abatement, at this time. However, because this project is in an early stage of development, specific

recommendations cannot be made at this time. The incorporation of noise barriers will primarily depend on public response and comments relative to the use of noise barriers, as well as the final design layout. A design noise study will be done after the design plans are drawn up and before a public hearing on the proposed design is held. See Section V., under Noise Analysis, for a more detailed discussion of noise impacts.

Comment - Concern was expressed by some for the safety of school children crossing the highway in Norwalk, and requests were made for traffic signals.

Response - Careful analysis of traffic operations and other factors have provided a series of warrants that define the minimum conditions under which signal installations may be justified. Consequently, the selection and use of a control device would be preceded by a thorough engineering study of roadway and traffic conditions. According to the "Iowa Manual on Uniform Traffic Control Devices for Streets and Highways", a traffic control signal may be warranted at an established school crossing when a traffic engineering study of the frequency and adequacy of gaps in the vehicular traffic flow determines that there is not sufficient time to allow for safe pedestrian crossings. Following completion of highway construction, a request may be made for a traffic engineering study at established school crossing sites.

Comment - Several alternatives to the present concept were suggested at the public hearing. There were as follows: a three-lane concept with a reversible center lane to accommodate the peak hour directional flow of commuter traffic to and from Des Moines; a "Do Nothing" condition south of County Line Road, while constructing four-lanes from County Line Road north to Iowa 5; a raised median concept at intersections only, instead of a continuous raised median; a four-lane undivided section with no median; and, installation of traffic signals in the corridor, to control traffic.

Response - Because of the high estimated future traffic volumes and continuing urbanization in the corridor area, it is felt that a four-lane divided highway facility with a raised median will provide the safest facility and the one capable of providing the best traffic service. See Section VI., Alternatives, for additional comments.

Comment - The Mayor of Norwalk was among those few who asked why the project did not extend to the south corporate limits of Norwalk.

Response - Elm Avenue was determined to be the most logical southern termini for the Iowa 28 improvement due to the forecast traffic volumes in Norwalk. Presently, traffic counts south of North Avenue are significantly lower than those north of that point (approximately 50%). Since future traffic estimates project a continuation of that trend, the decision was made to begin the four-lane divided section at North Avenue. A taper section, from the existing two lanes to the four-lane divided, is proposed between Elm Avenue and North Avenue.

Three petitions were presented at the Corridor Public Hearing. Two of these petitions, signed by a total of 35 persons, were opposed to the entire project. A third petition, signed by 105 persons, was in opposition to the raised median concept, in particular.

Between March 28, 1978, the date of the Corridor Public Hearing, and 12:00 Noon, April 7, 1978, 21 letters were received relative to the Iowa 28 project. A letter was received from the Polk County Board of Supervisors, supporting the Iowa 28 improvement, as proposed, while the remaining letters were from residents of the project area. The majority of comments received indicated that area residents felt there was a need for a four-lane improvement. However, approximately half of those responses expressed opposition to the raised median concept, particularly within the Norwalk City Limits. There were also several letters expressing concern for impacts on individual properties due to right-of-way acquisition, closer highway proximity, and changes in access. Other concerns mentioned were construction of a bike path and noise barriers in the project corridor and installation of traffic control signals at school crossings.

These concerns have been noted and will be examined further during final design.

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